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Art. I.—Present State of Theology in Germany.

1. *Zur Geschichte der neuesten Theologie.* Von Karl Schwarz, ausserordentlichem Professor der Theologie zu Halle. 3e Auflage. Leipzig. 1856.
2. *Internal History of German Protestantism since the Middle of the last Century.* By C. F. A. Kahnis, Professor of Theology in the University of Leipzig. Translated from the German by Theod. Meyer, Hebrew Tutor in the New College, Edinburgh. Edinburgh: (Clark). 1856.
3. *Die Kirchengeschichte des 18en und 19en Jahrhunderts aus dem Standpunkte des evangelischen Protestantismus.* Von Dr. K. R. Hagenbach. 3e verbesserte Auflage. Leipzig. 1856.

In the early sessions of the Council of Constance, the votes of the assembled prelates and divines were taken by nations. The injustice of this arrangement was complained of by the Pope, on the plea that it reduced the learned Italian and French prelates to a level with the English and Germans.

Since the 15th century, Theology has emigrated. Extinct in Italy, and all but so in France, it is now in Germany alone that the vital questions of Religion are discussed with the full and free application of all the resources of learning and criticism which our age has at its command. It is not that better books are produced in Germany than elsewhere: it is, that theological inquiry and research are alive there as they are not elsewhere.

The colliding elements of which religious sentiment is made up are there circulating with a healthy activity through the intelligence of the educated classes; and the result is that balance of system which is as necessary to sound mental, as to bodily, organization.

We may distinguish two kinds of vital action of the religious sensibility. One which spreads itself through the masses. This rouses to action, originates crusades, religious wars, animates martyrs. Its organ is the pulpit, or the pamphlet; its issues are tried in councils and synods. The other is confined to the educated, perhaps we should say the reading, classes. Its organ is the book, or the Professor's chair. It is speculative, and concerns itself with thought and words, not with acts. It is the religious sentiment manifesting itself through the intelligence, in criticism and reflection, moulding and applying, assimilating and reproducing portions of the religious material which time has accumulated. The product of this process is Theology.

It is of this latter process and its result that the following pages speak. Our object is not to give detailed abstracts of books or systems, but to indicate the broad features of the sections into which theological opinion is at present divided, and to enable an unprejudiced reader to judge how far the religious literature of Germany fulfils the conditions of a healthy theology.

For in this country, it is hardly necessary to say, a very unfavourable opinion of the state of Theology in Germany is widely prevalent. We welcome eagerly their historical and critical labours; the scholars in our universities are content, though with an occasional outburst of impatience, to sit at the feet of German professors in Greek, and in general Philology. But German Theology has been long under a ban. Not to speak of the wholly uninformed, who depend entirely on the reports of others, even educated men participate largely in this undefined prejudice. Undefined it is, but peremptory. And though it is impossible to reduce the contradictory epithets in which the prejudice expresses itself, to any common term, we may extract from them at least two separate ideas which seem to be generally shared in. First, theological speculation in Germany is wild and lawless, a chaos of reckless criticism and baseless systems which, "like momentary monsters, rise and fall," bearing no relation to religion, and not worthy of a plain, sensible man's attention. Secondly, it is not merely foolish, but impious; not merely superfluous in religion, but irreligious and antichristian.

To these two may perhaps be reduced the notions prevalent among intelligent men in this country about German Theology. Other, but accidental, impediments there are which deter them

from approaching the subject. In addition to the natural difficulty of the German language—a difficulty prodigiously enhanced by the elaborate sinuosity of the period which German writers now choose to adopt—there is a discrepancy between their mode of thinking and ours. "It has often been remarked with regret," says a recent writer,* "that while the learned in the exacter sciences abroad and in England have the most perfect sympathy with each other,—while the physician or the mathematician in London is completely at home in the writings of the physician or the mathematician in Berlin and Paris, there is a sensible, though invisible, barrier, which separates the jurists, the moral philosophers, the politicians, and the historians of the Continent, from those who follow the same pursuits in England." This divergence—a divergence not of opinion, but in our mode of thinking—is even more manifested in our Theology, than in the moral and political sciences. It is therefore an element of difference which must be discounted in a comparison of conclusions. As common to many provinces of thought, the influences of nationality must not be credited to one. The national medium of thought must not be confused with the results of thought. We make allowance for this variation of form, in our study of ancient literatures, but it is no less indispensable to do so in the case of living and contemporary nations. But we do not do it. We are apt to regard language as the only obstacle to complete intercourse with the intellectual produce of a foreign European nation, and to expect that when we have surmounted this barrier, we are to find ourselves at once naturalized. The abundance of translations tends to foster this expectation. We read a translation from the German as we would an original English book. We expect that, because the language difficulty is smoothed for us, we are to meet with no other impediment to apprehension than such as the subject itself may present. When we find that this is not the case, when we still encounter an element which eludes our grasp, and feel ourselves inhaling an atmosphere in which we do not freely breathe, we summarily condemn our book, form and matter, contents and treatment, together. No one does this with an old philosophy. No one expects from an English translation of the Vedas, or of Aristotle's Metaphysics, to find Hindoo or Greek philosophy lying patent before him. The whole of the interpretation is to come, after translation is ended. When we have penetrated the language, there remain many integuments through which we have to make our way to the thought. The intricacies of this process may be greater for an ancient, than for any modern, literature. But they exist in all. No one, certainly, is under

* Dr. Maine, "On Roman Law and Legal Education."

any obligation to undertake this labour for the Theology of Germany. But no one has any right to pronounce it "unintelligible" till he has taken the proper means to understand it.

Other hasty and imperfect notions are also current on the subject. It is believed by some that German criticism is the product of Professorial rivalry. Dr. Pusey, *e.g.*, can count on an audience to whom he can say that these theories originate in the pleasure of pulling to pieces "what has been received for thousands of years;"

"Such has been the course which the mind of the German professors has taken, and in part is taking. One cannot read speculations on Holy Scripture, in which it is dissected into fragments on some arbitrary theory of the professor's, without marvelling at the self-confidence with which conflicting opinions are proposed, and at the same time feeling that the interest which the different theories have in the author's eyes is their supposed ingenuity. The aim is to achieve something that has not been achieved before."—*Evidence, &c., on the State of the University of Oxford*, p. 24.

That there have been reckless assertions and unqualified critics,—that the revolutionary spirit has at times disturbed the calm temper of historical inquiry,—that the ardour of novelty has carried the discoverer beyond the bounds of sobriety,—all this is certain. But to think that so pervasive, deep-principled, and epochal a development of thought as has been evolved in Germany during the last hundred years can have had for its sole or its chief cause one of the most puerile and ostentatious of human passions, is a belief which could only satisfy minds of the most superficial order. This philosophy of "What great events from trifling causes spring," is a poor key to history. Voltaire's "Dictionary," once thought "philosophical," explained the Reformation from a jealousy of the Augustinian monks against the Dominican friars. "Ce petit interêt de moines dans un coin de la Saxe produisit plus de cent ans de discordes, de fureurs, et d'infortunes chez trente nations." We now believe, on the contrary, that "tout se tient dans l'ordre des idées," and that in intellectual, as in social, changes, the state of belief in any age is determined by the conditions of that which preceded. On this principle only is a history of Theology either possible or instructive.

And the time is now come when German Theology can be historically described. The noise and confusion of the battle are over. The dust and smoke are rolled away, and the contending forces may now be seen in position, in orderly and intelligible arrangement. The critical Theology has become conscious of its own mission. From a blind instinct of aimless inquiry, from the eager ebullition of youthful curiosity which would question

everything, it has matured into a habit of careful research, governed by a conscientious spirit, and armed with all the resources of knowledge, direct and collateral. If, indeed, its early enthusiasm has abated, this is inevitable. All fertile periods of speculative agitation, such as that which Germany has just gone through, are only possible because they are stimulated by hopes too sanguine to be realized. After a time the human mind is brought-to, in its most adventurous flights, by the bounds which it cannot pass. It recognises, when "roused by the shock which drives it back, the wall of adamant which bounds inquiry." It lowers its pretensions, but at the same time consolidates its efforts. In this stage is German theological endeavour. Never was speculation less wild or capricious. Its every movement has to be made under the surveillance of the most vigilant criticism. Its own intense consciousness of the laws of logical method check it at every turn. The enormous wealth of applicable learning which it has accumulated hampers its operations. It can no longer be ingenious or inventive, but is under the imperative necessity of being just. It may smile at the crude conjectures of its young rationalist days, but it must be with a mixture of regret for the freedom and elasticity with which it then sallied forth for the conquest of the world.

The critical Theology, then, having attained the maturity of its growth, perhaps already in the decline of its strength, but certainly not yet numbered with the things which belong to the past, is a proper subject for the historian: and it has not been neglected. Already histories abound; and the nineteenth century is in a fair way of being as thoroughly discussed as the sixteenth. Besides fragments contributed to some of the many religious periodicals from nearly every theologian of repute in Germany, there are complete histories of recent Theology by Kahnis, and Gieseler. For the earlier part of the period, that is from the beginnings of Rationalism down to Strauss, Professor Hagenbach's "Lectures on the Church History of the Eighteenth and Nineteenth Centuries" (Leipzig, 1856), offer an excellent introductory sketch. Popularly written, without being superficial, it is what too many German books are not, readable. For the later and contemporary portion of the period, since the Straussian crisis, the brilliant sketch of Dr. Schwarz leaves nothing to be desired.

It will, of course, be understood that such reviews as the two now mentioned, can but initiate a student into a vast and varied material. To follow out the whole movement of the critical Theology, and of so much of the philosophical revival as is connected with Theology, is a study by itself. It is, too, a study well deserving the time and pains it requires on the part of the

student of history. For it must not be supposed that German Theology is some obscure national product, the concern exclusively of the country which has given it birth. It is no insulated phenomenon. Though generated in Germany, it belongs to Christendom. It is the theological movement of the age. It is only because there is fuller intellectual life in Germany than elsewhere,—only because it so happens that, at present, European speculation is transacted by Germans, as our financial affairs are by Jews, that German characteristics are impressed on the substance of the Christian science. The capital of learning is in the hands of Germans, and theirs has been the enterprise which has directed it into theological channels. The stream may be strongly coloured by the peculiarities of the locality through which its course at present lies; but it is the old stream of Christian tradition still, whose source is in the Galilæan Lake. If we have not been drawn into it, or contributed to it, it is not because we have found a better channel for thought, but because we have dispensed with thought on such subjects altogether. So far as there has been speculative movement in any other of the constituents of the European commonwealth of nations, so far they have participated in the German impulse.

For this is the historical law of the progress of the human Mind. In each wave of its advance, in each epoch-making conquest, some one nation has taken the lead, and done the work, while all have shared in the profits. *Sic vos non vobis* is the condition of all industry, intellectual, as well as material. In quite modern times it would seem as if the burden and labour of human progress was pretty evenly shared between the three nations of Europe who have any liberty of action at all. The French have had hitherto the working out of the political problem. To the share of the English has fallen the social and industrial difficulty. Speculative Germany has claimed for her own the problems of thought, the abstract matters of Philosophy and Theology. To each of these separate tasks is attached its own burden, its own peculiar danger. We each do our work at our own risks and perils. It is a venture in which each, if he loses, wrecks only his own fortunes; what each gains is equally gained by all. The political experimentalist, France, undertakes hers, subject to the most terrible casualties,—to violent revolution,—to the sudden transference of power from one extremity of the body politic to the other. The English industrial development is big with the threatening evils of pauperism, fraud, and bankruptcy, of which none can yet foresee the issues. It cannot, therefore, be expected that the work of the intellect should not be subject to its own dangers,—to the destruction of faith,—to the too absolute rupture with the past,—to exhaustion and paralysis from over-exertion, and other diseases incident to vigorous life.

Nor is it only in the most recent times that Germany has been called to this office. There have been, in all, three Epochs at which Christian doctrine has acquired a new development. Each of these Epochs of development was determined by a previous excitement of the speculative faculty.

1. The Greek Theology, or the Christological Controversies of the fourth and fifth centuries: determined by the speculative excitement which arose out of the collision of Greek with Oriental ideas, and to which may be given the name of the Gnostical Movement.

2. The Latin Theology of the twelfth and thirteenth centuries: determined by the speculative movement commonly called the Scholastic Philosophy.

3. The Vernacular Theology, or the Reformation Controversies: determined by the intellectual excitement known as the Renaissance.

In this last conflict and evolution of Christian doctrine Germany had, undeniably, the chief, if not the whole labour. It is true that the most elaborate of all the renderings of the Protestant views, Calvin's "Institutes," was the work of a Frenchman. But the inspiration, if not the substance, of Calvin's scheme of thought came from the German controversies.

The source of the inspiration, however, was very soon closed. How far the Reformation doctrinal development had exhausted itself from within,—how far it was checked from without, by the interference of power, is not now for discussion. Suffice it that for two centuries or more theology in Europe was dormant, except so far as the Quinquarticular Controversies at the beginning of the seventeenth century may be considered an exception. Future historians of Christianity will have to describe as—

The *fourth* Epoch of its doctrinal development, that which commenced in Germany towards the latter part of the eighteenth century, a movement which is now, at the middle of the nineteenth, approaching its consummation. This movement contains two directions, a speculative and a critical. In its speculative, it was determined by the new philosophy which we may designate by the name of Kant. In its critical effort it was inspired by the Philological activity which preceded, and which has outlived the Philosophical properly so called.

These epoch-making movements in the history of Christian doctrine are distinguished from the other portions of its course by being productive. In the long periods which intervene between these Epochs, theology is not lost. Religious ideas always subsist. Books are written. Doctrines are taught, expounded, proved, argued. But though the ideas are there, they do not fecundate. Nothing is developed from them. The mind does not go on to new applications of the old principles. Theo-

logy becomes an abstract matter,—gets more and more an affair of books, and less and less applicable to the course of the world. These intervening periods thus become periods of orthodoxy, and merge in the stagnation of Christian thought. The epochs are moments of revival and reform. They are characterized by earnestness, energy, and intensity of thought. The religious consciousness is awakened, and the ideas of religion become again matter of human interest. The inexhaustible applicability of Christian truth strikes the new generation with wonder. Men are engrossed with the rediscovered principles, and absorbed in measuring and comparing, in applying and adapting them to those masses of other knowledge which had been accumulating on their hands during the last long period of abeyance.

Thus, movement is the characteristic of the epoch of religious revival. It follows, that one indispensable condition of such revival is freedom for thought. The natural action of the popular mind must not be interfered with by any controlling force from without. It is here precisely as in morals or politics: free agency is the condition under which the individual must work out his own happiness. Political freedom is essential to constitutional development. That this is the true order of things is now recognised by foreign theorists on the English Constitution. *It* has been the creation of our freedom. Our liberty is not guaranteed by the constitutional forms. Rightly does a recent eloquent writer place the freedom of discussion at the head of his dissection of English politics:—

"Sachons reconnaître en premier lieu," says Count Montalembert, "le fait qui est à la fois la condition essentielle de la vie nationale, et la source des erreurs les plus habituelles aux juges étrangers. Tout y [in England] est discuté, critiqué, débattu sans réserve. Tout s'y fait au grand jour et au milieu du bruit. Rien n'échappe à cette loi universelle. Religion, politique, guerre, legislation, administration, il faut que tout passe et repasse chaque jour par ce crible redoubtable. . . . Telle est d'ailleurs, partout et toujours, la condition de la vie, de la vraie vie, de la vie virile, la seule dont il vaille la peine de vivre! Ce qui fait la force des individus fait aussi la force des nations; l'habitude du danger, la perpétuité de l'effort, la liberté du mouvement. Qui jamais a rêvé la vie avec un garderne sur les yeux, avec du coton dans les oreilles, avec la main d'un maître pour béquille? Quand vous me montrez un homme dans cet accoutrement, je plains et je respecte les infirmités inséparables de la vieillesse, mais je n'y reconnais pas les conditions de la vie."—*De l'Avenir Politique de l'Angleterre*, p. 23.

These words, descriptive of the freedom and vigour of political life, are not inapplicable to the Church. Christian Theology has been elaborated by controversy. Out of the war and collision of opinion, out of an atmosphere of conflict, each

age has had to draw the spiritual truth on which it has lived. The indispensable condition of this process is freedom of opinion. The natural balance and consistency of the human mind with itself will keep it just, only if no alien influence be intruded into its deliberations. Under that condition, the formation of doctrine is promoted, and its truth guaranteed, by the fervour, intensity, and variety of speculative effort, by the conflict of mind with mind, by the correction which opposing systems mutually supply each to the other. In the words of V. Cousin ("Abelard," p. 179) —"La victoire absolue c'est la mort en philosophie; un systéme rival est necessaire au meilleur systéme, et la critique est la vie de la science." Not that contention and strife can be ever other than evil; they are among the evils of imperfect intelligence. In the Beatific vision there is no shadow of doubt; the Perfect reason does not employ logic. But neither perfect understanding nor perfect virtue is attainable by man in his present state. The Church militant is no more in possession of absolute truth than it is of absolute sanctity. "Speculative difficulties are of the very same nature as external temptations." (Butler, "Analogy.") We cannot, in this life, place ourselves without the sphere of either.

But the recent German movement is not only a vital movement in the heart of Christian Theology; it is, further, a movement in a direct line from the Reformation. It is the historical consequent of the great Revolution of the sixteenth century. So little is it the arbitrary creation of hallucinating Professors, that it were nearer the truth to say it was necessitated by the regular progress of European thought.

The Reformation of the sixteenth century comprised within itself two directions—a revulsion or reaction of popular sentiment, and a development of formal doctrine. The first of these, or the popular commotion, played so important a part in that movement as to have thrown the latter comparatively into the shade. The dogmatic position of the Reformation was undoubtedly its weak side. The ecclesiastical abuses in the Western Church were patent and acknowledged. They were tacitly acknowledged even by the Church itself, inasmuch as the most flagrant of them were gradually corrected and removed. But against the doctrines of the Reformation the Church of Rome has always been able to make a successful resistance. This is because the Reformation dogmatic rests on an hypothesis which Catholic Theology does not admit—viz., the exclusive sufficiency of Scripture. The Roman theologian smiles to see the self-complacence with which the Protestant divine first assumes as his basis Scripture, interpreted by Reason, as his rule of faith, and then proceeds to make Scripture yield up, as its contents,

precisely the confessions of the sixteenth century, and no more. The formal position of the Reformation is often stated as the insurrection of the human reason against the yoke of authority. The movement may have tended in this direction, but it was not this consciously or avowedly. Its formal and avowed basis was an appeal from the Church to the Bible. The Reformers rejected the traditions and beliefs of the Institution in favour of the Document. The force and success of their appeal lay in its presenting itself as an appeal from the human to the divine; from the Church, now discovered to be a society of men, to a book, thought to be the book of God. Even had they *meant* reason, it would have been of small avail to say so; for that would have been to appeal from the human to the human, and would have been but a weak engine against the stronghold of Babylon. They could only have triumphed by being able to produce an admitted infallible on their own side against a fallible on the other. For, while the Romanists admitted the authority of Scripture, the Protestants did not admit the authority of the Church. The claims of Reason, then, were not argued; the question lay, for the sixteenth century, between rival authorities; and in that form it has been transmitted by tradition, and thoroughly ingrafted into the popular religious sentiment of our own day. But a very slight consideration of the history of the Reformation is sufficient to show that the hypothesis of The Book owed its victory over the rival hypothesis of transmission by an incorporated society, to causes extraneous to any superior probability intrinsic in the hypothesis itself. At any rate, it was inevitable that, when that hypothesis had done its work in controversy as against papal authority and ecclesiastical tradition, it should, in quieter times, be itself subjected to examination. What determined the Reformation was, as has been said, the intellectual revival of the Renaissance. A mass of knowledge was gradually accumulated, and a momentum acquired by speculative curiosity, which became inconsistent with the inert religious ideas which had been kept sedulously isolated from the humanist movement. The human mind at last turned round on its religious system, and found that it had come to bear with its whole weight on the prop of church authority. Protestantism transferred so much of the superstructure as it retained to the foundation of Scripture. Instead of building on the Church, it built on the "pure Word of God." Having done so much, it stopped. The Reformation impulse was exhausted for a time. Theology came to a stand-still. The same process which had prepared the way for the Reformation was gradually going on. Knowledge was accumulating outside: critical inquiry was gathering force. Theological science all the while intrenched itself more

and more jealously within the narrow limits of the sixteenth century. Again the human mind turned round upon its inherited religious system, and found that it rested with its whole weight upon a book. It was inevitable that the claims of the book should be submitted to tests. It is imperative that, on a matter so all-important to it, the understanding of Christians should be satisfied that the book is what it is alleged to be,—that it *can* be the sole and exclusive source of our religious hopes and beliefs. Criticism, so far from being imperious and arbitrary, is become the duty to which Theology is summoned. Should it be found that the basis to which Christian doctrine was shifted by the Reformers was an insufficient one, we have precisely the same right, we are under the same obligations, to transfer it to what appears to the best of our knowledge to be a sounder position, as the Reformers were when they substituted Scripture for the Church. While the Protestant Churches generally have evaded this plain duty, and betaken themselves to anathemas, intrenching themselves behind the "authority" of the Reformers in the very spirit in which the Reformation was resisted, the inquiry has been honestly and courageously undertaken in Germany, and something, at least, has been done in the last fifty years towards a solution of its difficulties.

It is easy to say that little has been really done—that there is little to show for so much agitation—that the number of questions unsettled is large compared to that which has been settled. We shall not think so when we are sufficiently aware of the complexities and delicacies of the subject. The principles of celestial mechanics are not at all doubtful; yet what long periods of inquiry and debate, what hot opposition had to be encountered, before they could be installed in the place of the traditional hypothesis! The true character of the early history of the Roman republic is but slowly establishing itself in the understanding of educated men. Yet how small the amount of human interest involved in upholding the traditions of Livy! Was the theological question, indeed, a mere question of fact—*e.g.* a question of the authorship or genuineness of this or that particular book, it would be soon decided. But the relation of the Canonical Books and of the opinions of the first Christians to the opinions of Christians in our own day—this is, in its very nature, a question not admitting of being ruled in the absolute and definitive way which the objection requires. Probability is the essence of historical criticism; nor can that criticism divest its reasonings of their probable character, because the records to which it is applied are religious records. So far as divine facts have been suffered to be incorporated into the world's history,—so far as they have become *events*,—so far they must needs be described, recorded, inter-

preted, and arranged by the same means as any other events. The transcendent importance and spiritual bearing of the events resides in the nature of the events themselves. The human soul, with its eternal destinies, is lodged in a material body. There are no other means than the universal laws of chemistry and physiology by which we may ascertain the conditions under which that body subsists. There is no short-cut, no royal road, whether by way of pope or of council, of fathers or reformers, by which we can grasp so much of the Christian revelation as is matter of fact and record.

We may conveniently classify the existing Theology of Germany into three tendencies, or schools:—1. The Historico-critical. 2. The Orthodox. 3. The Mediation-Theology, which lies between, and desires to reconcile, Nos. 1 and 2.

1. The first place is due, on many grounds, to the Critical school. This was the problem bequeathed to succeeding times by the Reformation, which had set off the Apostolic age and the Canonical Books, against the middle-age development of Christianity. This the sixteenth century had done with success. But it had made an appeal to history, and had therefore invited a scrutiny of the historical antecedents which itself was unable to apply. And if the Reformation had challenged criticism, it was precisely in this direction that modern discovery had been advancing. Already, in the commencement of the seventeenth century, Jos. Scaliger had turned the stream of historical research into ecclesiastical channels, and had swept away much of the pseudepigraphical literature which had been accepted as genuine equally by the Protestants and Catholics of the sixteenth. The deistical movement, too, of the eighteenth century, which denied any value to the Christian records on *à priori* and inappropriate grounds, forced upon Theology the task of determining the true character of its own historical monuments.

The Historico-critical process, then, claims attention first as the legitimate continuation of the Protestant movement in Theology. At the present time, it not only holds the first place, but seems to be in exclusive occupation of the field of Theology. The speculative movement, which in Schleiermacher advanced with such lofty aims and brilliant promise, is for the present suspended. It cannot indeed be said that it has borne no fruit, or left no influence behind it, but as an instrument of inquiry, it shares in the general depreciation of philosophy. We have not therefore thought it necessary, in our classification of existing schools, to reserve a place for the Philosophical process. All that there is of speculative effort is now subsidiary to the historical inquiry, which cautiously and sparingly employs it in its service.

In this subordination of the speculative to the critical method, lies the great distinction of the Historical, or, as it is familiarly called, the Tübingen school. Hitherto, philological criticism had been an instrument of speculative Theology. That is to say, the theologian determined his doctrines by some other method, and then had recourse to criticism to fortify a foregone conclusion, or to annoy an opponent in his position. Interpretation had become, in the most barefaced way, the art of finding in the Bible that which each had determined to believe. The old satire—

> "Hic liber est in quo quærit sua dogmata quisque,
> Invenit et pariter dogmata quisque sua,"

not only applied strictly to the herd of commentators, but more original minds did not escape this vicious circle. This circle, be it observed, is not to be confounded with that vague accusation which is often urged against the Protestant claims of private judgment. Romanist and Anglican controversialists have found no more fertile topic than this of "prejudice:" that education necessarily biasses the mind; that principles of judgment are, in fact, opinions; and that, before we come with matured powers to exercise this so-called "private judgment" on Scripture, impartiality between competing interpretations is no longer possible to us. This line of argument, an arrow out of the quiver of the sceptics, has been often urged with great force on the side of Authoritative religion, and replied to on the other. Distinct from this question of the qualification of human reason, with all its interest, is that peculiar inconsequence by which the Reformation Theology was embarrassed in its appeal to Scripture. It takes its stand upon a book which it pronounces the sole authentic depositary of the Divine Will. The contents of this book can only be arrived at in the way in which the contents of any book are—by understanding its language. Its language is ancient. The adequate knowledge of a dead language is Scholarship. The proper application of grammatical and historical knowledge to the elucidation of a book requires a very high class of scholarship, or Philology. Philology is eminently the Protestant science. Every advance or improvement in philology was an improvement of the Protestant organum, a strengthening of the Protestant arm. All the great philologers were Protestants. But as the art of interpretation was improved, it was found that a knowledge of authorship, ay, and of constituent ideas, were essential to complete interpretation. But to do this in the case of Scripture was incompatible with, or it was feared might become so, not only the creeds with which the reformed Churches had over and above burdened themselves, but with the original assumption of Scripture altogether. Protestantism was therefore in this dilemma. It must either give up Scripture, or put a veto on its

interpretation. If the principle of "Scripture the only source" was to be maintained, it could only be maintained by applying the recognised laws of interpretation. To veto interpretation was to reduce Scripture to silence.

Critical and exegetical effort had thus, ever since the Reformation, been confined by an unnatural barrier. Their free action had been prohibited, and consequently all their results falsified. A principle derived from speculation had controlled and vitiated Scripture interpretation. The eminent merit of the Tübingen school is, to have freed Scripture interpretation from this false position. It no longer, by a speculative assumption, makes Scripture interpretation impossible. It distinguishes carefully what is speculative from what is historical in religion. It conceives of Christianity as a series of connected events, having a history, the earliest preserved records of which are the canonical books. It does not deny the perennial source of religious consciousness in the human breast, but it selects for the special field of its own labours the historical manifestations. It makes no pretensions to fetter speculation, but makes it its humbler object to ascertain what has occurred, what has been thought and felt. It does not enter the lists for or against this or that doctrine, but analyses it, tracing its growth and formation. Ecclesiastical history had been hitherto only a vehicle for party passion. Scripture was degraded into a repertory of texts out of which doctrines were to be supported. Critical and historical conclusions had been applied by one side to pull down, by the other to maintain, the orthodox system, but there was no belief in criticism and history as scientific methods. The Tübingen divines did not invent historical criticism, nor were they the first to employ it upon dogma. But they have been the first to assert its paramount claims, as the method of interpretation, exclusive of any other hypothesis. Bacon did not invent induction, but he was the first to assert it as the supreme and only method of procedure in Physics. Even in the beginnings of philology in the sixteenth century, it had been said—"Non aliunde dissidia in religione pendent, quam ab ignoratione grammaticæ."—(*Scaligᵉ*. Iª p. 96.) The importance of this pregnant sentence has been slowly making itself felt. The claim of philology as the only key to history has been gradually established. After being successfully applied to every branch of history, its latest conquest was the history of philosophy. The only unconquered territory then left was the history of theological opinion and religious sentiment. This we now see, for the first time, fairly and fully undertaken by men qualified for the task. They have relieved Scripture criticism from the incapacity under which it laboured, from the opprobrium of dishonesty which had attached to it. It is not too much to say that more has been

done for the elucidation of the three first centuries during the last twenty years, than in the two hundred years which preceded. This signal success, in a subject seemingly so well worn, must be ascribed chiefly to the distinct and consistent application of their principle of inquiry. It cannot be overlooked, however, that this success has been greatly promoted by the genius and unrivalled acquirements of one man, the celebrated head of the critical school—Dr. Baur.

F. Ch. Baur—the initials are necessary to distinguish him from a critic of a very different stamp, Bruno Baur—is not only the chief of the Tübingen school, but is unquestionably the first of living theologians. His exterior, by which one is involuntarily reminded of Gibbon—heavy, sleepy, and somewhat coarse, gives indication of the intellectual power locked up within. This exhibits itself in his books and lectures, in the rare union of the opposite qualifications—viz., the most extensive reading, with the most elastic vigour of original speculation. He has Mosheim's colossal capacity for details, with Schleiermacher's inventive genius. A deficiency in either of these points would have equally destroyed his means of remoulding the subject as he has done. With the exception of a few, and those certainly interesting, recent discoveries, all the facts of early Christian history had been long in the hands of theologians—had been turned over and over—commented and illustrated on a thousand sides. On the other hand, the speculative and *à priori* method had fairly exhausted itself in the various Hegelian schools. "Mere theory" had shown its impotence in Strauss' "Leben Jesu," in which it professed to dissipate all fact and reality, to disperse history into air. Forsaking the illusory path of speculation, Baur undertook to submit all the remains, genuine and spurious, of early Christianity to a new examination, on the same rigidly critical method which had been applied to the remains of classical antiquity. A bare enumeration of his labours may convey some idea of their compass and drift. No description can do justice to the fund of learning and vigour of thought which they contain.

Baur first came forward as a writer in 1824, with his "Symbolik und Mythologie," in which he still stands on Schleiermacher. In 1831 he published, in the pages of a theological journal, the "Tübinger Zeitschrift," two essays, on "The Derivation of Ebionitism and Essenism," and "Church Parties at Corinth." The latter of these essays contains already the germ of that view which he has since much expanded—viz., the view of the development of Christianity through the antagonism of Petrinism and Paulinism continued within the Church up to the middle of the second century. In 1833 he first descended to the times of the Reformation, and stood forward as an expounder of the principle

of Protestantism against Möhler. After this, there followed in rapid succession a series of striking monographs:—"Gnosticism" (1835), "On the Pastoral Epistles" (1835), "On the Epistle to the Romans" (1836), "Manicheeism" (1838), "The Origin of the Episcopate" (1838); these were smaller essays preluding to works of greater extent and compass. These were a "History of the Doctrines of the Trinity and Incarnation" (1841-43), "The Apostle Paul" (1845), "On the Canonical Gospels" (1847), and lastly, "The Christian Church of the Three First Centuries" (1853). There are, besides these, many dissertations scattered through the volumes of the "Theologische Jahrbücher,"—a journal established chiefly by himself in 1842. In one of the most recent, he has returned again to the topic which had engaged him in 1833—the distinctive principle of Protestantism, examining the claims which Lutheranism, Calvinism, and Melancthonism respectively make to be the orthodox representative of the Reformation.—*Theolog. Jahrbücher,* Bd. xiv. Jahrgang, 1855.

The characteristic of Baur's method has been already indicated. The animation and force of his reasoning is derived from the directness and distinctness of his purpose. The vigour and inspiration which many theorists have drawn from theological passion, is supplied to him from his confidence in his scientific method. Every fact with him tells, and is referred to its place. He is no historical painter, to bring forward events because they make a good picture. He values nothing but what is significant, and to him every phrase of an ancient writer is significant. With the same fine tact with which Niebuhr follows the trail of a national migration, Baur tracks a dogma. Not an inflexion, however minute, escapes him; not a complication, however perplexed, that he does not unravel. The traverses and passes of dialectic, the flights and vagaries of mysticism, the solid and the frivolous, the heights and depths through which the doctrine in its passage down the stream of time has ranged, are all marshalled in their due relation to the general development of the thought.

Out of Baur's strength comes his weakness. The law of the development of thought had become in his hands the master-key of the history of doctrine. The idea so fertile and seductive led, not unnaturally, to exaggeration. The Hegelian *à priori* construction was over-driven in its application to Christian history. This speculative genesis of dogma explained so much, that it was too hastily concluded it could explain all. It is quite true that the dogmatic process takes place through successive generations, according to the laws of dialectic. It is further true that this sequence is the thread that must be taken up to follow through the mazes of history. But it should not be overlooked that other influences come in from without, modifying and marring the

symmetry of the logical dependence. The impulses to the construction of creeds are not exclusively intellectual conviction. Baur cannot be acquitted of somewhat of scholasticism,—of fixing the attention too exclusively on Christian thought, and neglecting the developments of Christian life and morals. These last he deduces from the doctrine, but he does not allow for their reaction on the doctrine. Other influences, no less momentous, especially the bias received at various epochs by Christian thought from secular power, are too apt to be overlooked. The new solution may justly take its place as the principal determining cause, but it is not the solitary condition, of all the phases of Christian doctrine.

The danger of the Historico-Critical school then appears to be one of one-sidedness, in relying too exclusively on the laws and categories of thought, as the order of historical sequence. If the historical method is to preserve the ascendancy it now exercises,—if it is to extend its empire over ecclesiastical annals with the entire right with which it has established itself in the other departments, it must above all things be true to its own principle. The attention which the historico-critical method has drawn on itself has indeed been caused by Baur's brilliant applications of it in detail. But its strength consists in itself. It claims to be the absolute method in history. Errors may be made in its application, as errors may be committed in an inductive process, but the claims of induction as the method in physics are not invalidated by such errors. The danger is not from any mistakes in detail, but from the method not remaining true to its principle. It professes to establish a safe and firm ground outside of the prepossessions of sect or the traditions of the religious parties. It would rescue Christian history from the reproach of being a common stock of material out of which rival creeds select facts for their own justification. Orthodox and heretic alike have used the history of the Church in the light of their own peculiar system of doctrine. Baur has reversed the process, and shown that the doctrine is to be accounted for by the general laws applicable to the whole history. We must not take in our hands any particular scheme of doctrine, and go back requiring to find this in each age of Christian teaching in all its integrity, imposing, *e.g.*, the Athanasian formularies on Origen and Irenæus. We must not do this, not because such scheme of doctrine is false, which is not the question, but because what we have before us is history, and historical fact cannot be truly dealt with in this arbitrary way. Theology is a science apart, having its own principles, its own method, its own truths. But these truths of theology are not to be imposed as laws of history. Historical criticism ascertains as far as it can, events, and the general laws

which have determined their succession. We must not obtrude into this inquiry the more important, it may be, but alien, conclusions of a distinct order of ideas. The whole power of the critical method lies in its being employed in its purity. Hence its judicial supremacy, its claims to decide without appeal on what is. It has brought the realm of thought within its jurisdiction, which before only extended to occurrences, simply by disclaiming the power to decide for past ages, what they ought to have thought, and limiting itself to the question what they did actually think. It is, in short, a positive science, repudiating theory. It must be said that Baur has not always been sufficiently on his guard against the insidious inroads of theory. In particular, he has allowed his capital discovery, that the historical books of the New Testament were composed with a doctrinal tendency, to glide into the position of an established law, while it is, as yet, only a highly probable hypothesis. Again, the antithesis of Petrinism and Paulinism, which is more than a hypothesis, and must be considered a fact, has yet swelled out of all proportions, extended itself both in time and degree, and has shown a disposition to efface, rather than to bring into light, the other characteristics of the period.

In these instances, and in others which might be quoted, it should be observed that Baur's error consists in the exaggeration of a true principle, not in the employment of a false. Such a source of error, therefore, does not threaten the vitality of the system. It is rather an evidence of luxuriant growth, than a symptom of decay. And it is sure to be soon corrected; it is even now in process of correction, by the retreat of friends from the untenable positions, and the operation of controversy without.

From this last source of correction less has come than ought to have done. For though the Tübingen views have called forth abundance of hostile writings, the greater part of these productions are entirely worthless in a critical point of view. They do not fairly produce the theory of orthodoxy, or allow it to measure itself against the new historical theory. The mass of these writers are evidently not in possession of the grounds of their own system. The more reasonable and learned antagonists again, such as Dorner and Baumgarten, notwithstanding their apparent determined attitude, do in reality make such concessions, and adopt so much of the critical view, that neither do they bring the pure theory of orthodoxy to bear with its whole weight on the controversy. The most useful of these antagonists is Bleek. He comes, however, from the school of Schleiermacher, not from the camp of orthodoxy. In Bleek's "Beiträge zur Evangelienkritik," 1846, the Tübingen critics are met on their own ground.

By purely critical arguments Bleek establishes the Apostle John in the authorship of the fourth Gospel. He has collected with great care all the internal marks of genuineness. He has subjected also the external testimonies to an independent examination. He lays due stress on Tatian's "Diatessaron," on the early appearance of the Gospel in the school of Valentinus. How, he asks, could this Gospel, if it did not really emanate from John, but first made its appearance about the middle of the second century, so immediately obtain universal reception? How is it that it was adopted unquestioned by opposite parties—by the Judaic Churches as well as by the Valentinians—by those who followed the Asiatic Easter as well as by the orthodox adherents of the Roman computation? To suppose such a universal recognition of a recent and spurious compilation, by all the conflicting parties in the very heat of their conflict, is nothing short of a miracle!

Some service is thus rendered to criticism by the professed antagonists of the Critical school,—if antagonists they can be called who only combat particular conclusions on the common ground of inquiry. Of greater value are the corrections and modifications that come from within. In these must be included not only the concessions and retractations of the Tübingen critics themselves, but also the revision of some of their ground by independent critics, such as Hilgenfeld. A critic like Hilgenfeld is the very man who ought to come after one like Baur. Without the temerity of the spirit of invasion, without risking hypothesis, without something of the hardihood of paradox, the New World could not have been conquered and taken possession of in the name of criticism. To consolidate the conquest, industry and sober good sense alone are wanted. These are eminently Hilgenfeld's characteristics. He has retired from some of the hasty positions which Baur had taken up; but he retires not in the spirit of one who makes concessions to hostile attacks, but of one who, on a more accurate survey of the ground, finds the positions untenable. He has not betrayed the principle of criticism, but has rather recalled the critics within it when they were in danger of being seduced into speculation. For example: the hypothesis of doctrinal purpose, which in Baur's hands threatened to swallow up every other consideration in accounting for the origin of the historical books, is now reduced to its proper place. It is one, but only one, element. The material which the evangelist, or Church historian, found at his disposal, was a main guide in the composition of his work. Besides Hilgenfeld, Köstlin, who is a pupil of Baur's, has, in his "Origin of the Synoptical Gospels" (1853), followed in the same path of cautious revision. Though the moderation of the younger generation of critics is

no abandonment of principle, but is only a more exact and rigid compliance with the laws of historical criticism, it may be questioned if their sober procedure has not lost something of its animating spirit. We may perhaps apply to them what has been well said of the Scottish common-sense metaphysicians, as compared with their more unsafe and speculative forerunners. These sensible reasoners, says M. Saisset,* possessed "une discrétion spéculative, un esprit de réserve et de défiance, qui n'est pas le doute, mais qui pourrait bien être la stérilité."

II. We have placed the Historical school first, not for the number of its adherents, but for the decided character of its pretensions. It is the only scientific Theology at present extant. But it is anything but popular, and commands no considerable section of theological opinion. Looking at the number and weight of respectable names, the party which makes the best show in Theology at present is what we must call the Middle Party. To this class belong all the theological writers of any eminence, except the few who, on either extreme, constitute the schools of Orthodoxy or of Criticism. It is indeed not a school or party: it is made up of men of all schools, character, tendencies, and antecedents, who, on the dissolution of the speculative schools, found themselves left, as it were, *in medio*—in a position which they did not choose, but which circumstances had prepared for them. Nothing else leaves on the spectator a more discouraging picture of the utter rout and discomfiture of German intellectual effort than the inspection of this wide region, in which is comprehended nearly every name of theological character in Germany. These *campi patentes* are anything but the abode of faith, of high aspiration, or Science confident in its grasp. It is rather like a battle-field strewed with the shivered wreck of some great combat. The pale heroes are seen sadly amusing themselves with the ghosts of dead controversies. Among these melancholy *débris* of a former world we are not to expect anything like common views, or united effort. What common character it has, however, is expressed by the name applied to this section of theologians. The term "Mediation-Theology" (Vermittelungs-Theologie) was first applied to the attempts made in the school of Schleiermacher, to approximate the old rationalism to the positive doctrine and ordinances of the Church. The followers of Schleiermacher (*d.* 1834) endeavoured this reconciliation on the side of faith and feeling. At the same time, Hegel (*d.* 1831) had promised to bring out orthodox Christianity as one with absolute philosophic truth. When this illusion was dispelled on the side of Hegelianism in the disruption of the Hegelian schools,

* "Revue des deux Mondes." 1853.

it was still cherished as a fond lingering hope among the followers of Schleiermacher. This phasis of mediation-theology belongs so entirely to the past, that it ought hardly to find a place here, where we are discriminating existing schools. It must find a place, however, because its respected representative still lives to propound his views by the pen and from the pulpit, however little attention they may now command. Ullmann is one of those amiable, gentle natures, whose activity and earnestness seem totally unconscious of the neglect and apathy they have to encounter. Books, pamphlets, prefaces, articles in periodicals, sermons,—in all these the unwearied author repeats the phrases of a long-since discredited system with all the zeal of a propagandist who can count his proselytes by the thousand. Ullmann's most popular book is his "Reformers before the Reformation." This was first published in 1841. There is an English translation in Clark's "Foreign Theological Library," in 2 vols. 8vo. Edinb. 1855. It is a series of biographies of some of the more remarkable among the German divines who preluded to the Reformation in the sixteenth century—John of Goch, John of Wesel, Cornelius Grapheus, the Brethren of the Common Lot, &c. As biographies they are indistinct and insipid; but the book has recommended itself to general readers by a tone of pious sentiment, a general tint through which, as in Neander's histories, all the characters are seen to look pretty much alike. The key-note of the author's theology at that time, was an adaptation of the Theology of the Reformation to the wants of the age. He says (Preface), "The only course of safety I see, is, for every man who can to cleave with conviction to the principles of the Reformers; and firm in the faith, and free in science, to build upon that ground conformably to the wants of the age." This vague longing for a reconcilement between the Theology of the Reformation and the "wants of the age," without any fixed idea how the reconcilement is to be effected, is characteristic of the mind of the Moderates at that period. But it is in his "Essence of Christianity"* that we find the average profession of the followers of Schleiermacher, or the "German Theology" as it called itself. Ullmann's "Essence of Christianity" is a repertory of Schleiermacher phrases, emptied of all their significance. The difficulties with which Schleiermacher really grappled, are here smoothed over with sounding words which but ill disguise the absence of any distinct theology. "Christianity is not a doctrine, as the Supernaturalists have said; nor a law of morality, as the Kantians; nor redemption, as Schleiermacher would have it; but *Life*." And the changes are rung on "Life-power," and "Life-principle," till the doctrine

* "Das Wesen des Christenthums," 1e Aufl. 1845. 4e Aufl. 1845. English Translation. Chapman. 1846.

of Schleiermacher disappears, evaporated in its own expression. This indeed was the inevitable fate which awaited the speculative rhetoric of Schleiermacher. Within the brilliant nimbus that surrounded that great name were lodged no distinctive features. Schleiermacher was an impulse, not a doctrine. It is true that his influence has been much more abiding in Theology than that of Hegel; but it has been an influence of personality, not of science. He inspired and stimulated; but he implanted no idea calculated to fructify. Hence the attempts to develope and continue Schleiermacher have led to nothing. The phrases with which the mighty master conjured became empty sounds in the mouth of the imitators.

Ullmann, then, with his mild and conciliatory generalities, is rather a *souvenir* of the past, than a representative of any tendencies of the present. We place him on the threshold of the Mediation-Theology, because the same character of indecision more or less pervades the whole school. In advancing, however, to its modern representatives, we seem to have before us something more solid and substantial. The Mediation-Theology has its scientific writers. At least Dorner, Liebner, Lange, appear scientific writers by the side of the washy and discursive rhetoric of Ullmann. In these theologians the influence of the spirit of Schleiermacher is still strong, but it is tempered by the logical forms of the Hegelian school. Nor do they aim only at the forms of a systematic theology. There is an honest and well-intended effort to conceive and expound the religious ideas. There is positive thought in this school. Its object is not simply to maintain a position, to argue in favour of received formulæ: it seeks to understand and to represent. It is not satisfied to proclaim a doctrine: it would realize the substance of which the doctrine speaks; nor does it shrink from attempting for itself the highest mysteries of Christianity. It is true, it is to some extent cowed before the pretensions of traditional orthodoxy. It receives much of the *credenda* of tradition, but with interpretations and interpolations of its own. The crowning example of its pretensions to originality is its exposition of the union of natures in Christ. They complain of the unproductiveness of Theology as ascribable to the timidity of theologians. These, they say, have got into the habit of restricting themselves to secondary and derivative matters, where emptiness and impotence are easily concealed, and avoiding all handling of what is fundamental, all reconsideration of primary dogmas.* The Mediation-Theology itself does not shrink from engaging the Christological problem. Observing that the old Lutheran Theology had neglected this doctrine, or at least had contented itself with reporting

* See Liebner, "Aus Vorlesungen über die Dogmatik."

the Catholic formularies, Dorner reviews these statements. Of the many gaps in the theory he signalizes two, which he proposes to fill in, in harmony with the style of the whole building. In order to state these additions, it is necessary to employ the technical language of Theology, strange to English ears, since scientific Divinity has ceased to be a study thought worth requiring, even from the professional ministers of religion.

1. In the unique person of the God-man, Christ, are united the two natures, the divine and the human, each in their completeness and perfection. Each nature therefore retains, in the new combination, all the properties and attributes necessary to such independent perfection. These attributes are related to the nature to which they belong as its inherent properties (*idiomata*). But as the personality is *one*, these properties of the one nature become, in a secondary sense, the attributes (*modi*) of the other. Thus, to the human nature of Christ belong, in the first degree, the attributes of humanity; in the second degree, the attributes of deity. Thus much all the Catholic Confessions had asserted. This predication of the properties of the divine nature as accidents of the human, was known as "glorification" (*genus majestaticum*). But it is obvious that, in order to make the interchange of attributes complete, it must be reciprocal (*communicatio idiomatum*). But the Catholic Theology had shrunk from carrying through its own hypothesis, and predicating the attributes of the divine as accidents of the human nature. This is now to be effected by conceiving the Divine Word in becoming man to have imposed a limitation on itself. Retaining all the attributes of deity in their fulness, Christ's divine nature is conditioned in space and time by the attributes of humanity.

2. Another essay of the same character is, Dorner's attempt to define the personality of Christ in its relation to the human species. Departing from the historical representations of Schleiermacher, Dorner* and Lange have returned to the scholastic ideal Christ. Christ is the typical man, a generic individual. He does not represent, but contain, the personality of the whole human race (*allpersönlichkeit*). Adam and his descendants are singly only so many dispersed members, portions, of humanity, the whole of which, in its essence, is summed up in the person of Christ.

It is not the place here to enter on any discussion of these doctrines in themselves. They are only cited as instancing the activity of the Mediation-Theology, and indicating the basis of its operations. They evidence vitality of thought, and activity of speculation in this school, in contrast with the stagnant

* "Entwickelungs-Geschichte d. Lehre von der Person Christi. 1e Aufl. 1848. 2e Aufl. 1853.

apathy of the Romanist and Anglican Churches, where Divinity consists in repeating by rote obsolete formularies without any attempt to conceive their objects as existing realities. But it discloses at the same time the hollowness and unreality of the basis on which this ingenious fabric is reared. The Mediation-Theology declines the application of modern metaphysic to religion. It keeps at a distance attempts, like those of Schleiermacher, to construe religious ideas in terms of modern thought. It will not rebuild from the foundation. But it will build. And it endeavours to work with the metaphysic of the Greek schools. That the Christian Church of the fourth and fifth centuries should have constructed a scientific theology, by employing its own metaphysical conceptions upon the eternal realities — nothing more natural, nothing more inevitable. It is impossible to resuscitate for theological purposes only, a metaphysical terminology which has ceased to be employed for all other purposes of thought and expression. We have the alternative of not speculating on religion at all. This is the alternative adopted by Orthodoxy. Its penalty is, that the religious ideas disappear from the mental vision, and their place is supplied by words. If we do speculate, we must think in our own language, in conformity with the same forms of thought as we employ in thinking on all other subjects. To speculate is nothing more than to construe consistently with the rest of my conceptions. We can no more think out religious problems in the metaphysics of a past age, than in a dead language. This imitative Christology of the Mediation theologians is like the imitative Gothic churches rising all around us. They are copies after originals— they are no longer expressions in stone of the faith and sentiment of the builders.

Nor has the activity of the moderate theologians been confined to the doctrines of the Incarnation. They have resolutely attempted the still more difficult problems of the origin of things, and the relation of God to the world. Here they are on more original ground even than in the last instance. Cosmological doctrine had been entirely neglected in the Reformation Theology. So far as it had been touched by the Catholic doctors, it had been chiefly apologetically, and in answer to the speculations of the Arabian metaphysicians. Since then it had been almost entirely abandoned to the philosophers. But as Theology revived, it was soon felt, not that it might, but that it must, grapple with this subject. This necessity comes upon it not only from within, but from without. From within—the doctrine of Creation is the essential substructure of the moral truths of Government and Providence. From without—the growth of physical knowledge drew on, in the train of its

extended mastery over Matter, speculations extra-physical on the origin of the existing combinations of Matter. Thus, from an isolated point in the controversy with the Deists, Causation and Creation have grown into questions of the first magnitude. From a mere ontological disputation, they are felt to involve the basis of the whole structure of natural knowledge which the last two centuries have been rearing. This, much more than the Christological, is the urgent problem of our age. Historical and Speculative Theology are similarly embarrassed by a pressure from without. As the growth of criticism, as independent Science, has made necessary a reconsideration of the position assigned to the canonical books in an uncritical age, so the vast development of Physical Science forces on a reconsideration of the crude conceptions of the relation of God to the world, which had satisfied men in the infancy of Physics.

This arduous duty the Mediation-Theology has not shrunk from. Several attempts have been made at a theory of Creation. The attempt is all that the historian can chronicle; for there is yet nothing but failure; nor can anything else be expected as long as the attempt is made in the spirit of *à priori* speculation. Entirely of this Hegelian character is the most celebrated among the recent expositions, that by Rothe. It may, perhaps, be thought that injustice is done to this original and independent thinker (now Professor of Theology at Heidelberg), by classing him with the Mediation-theologians. Rothe is the leading mind in philosophical Theology, as Baur is in historical. Not only the clearness and energy of his intellect, but the wide sweep of his systematic development of his science, place him on an eminence above the respectable level of the theologians of the Middle school. He is too clear-sighted to be satisfied with the half-truths and adaptations of the popular method. He is too stern a lover of truth to offer to compromise with Orthodoxy in order to secure its countenance. His deduction from his premises is rigid: if you go one step with him, you will have to go the whole road. He seems to lie under a necessity of consecutive thought, and is no patcher-up of many-coloured theories, or promulgator of views. He is ready to follow out the idea, lead where it will. In so following it up, he requires that speculation shall hold itself free from all homage to any alien authority, from all considerations of consequences. It is to own no control but the laws of logic, the intrinsic consistency of thought. This independence is, with Rothe, not a matter of personal, but of doctrinal, importance. He distinguishes speculative Theology from Philosophy, by saying that Philosophy has to develope the pure self-consciousness, while Theology does the same for the God-consciousness, or the idea of God in the human consciousness.

The matter, or object, of thought is distinct in each case, but the method is the same. Theology is as strictly dialectical as Philosophy. It is entirely independent of confessional orthodoxy, and scorns synodal determination by majorities. It is not influenced by opinion, but claims to correct and control ecclesiastical opinion. The pretence of churchmen to decide doctrine is as preposterous an invasion of theological science, as their professing to lay down the laws of motion would be of mechanical science.

Notwithstanding this clear enunciation of the sphere and claims of speculative Theology, or, as he calls it, Theosophy, Rothe can be ranked only among the Moderate theologians. It is true that he is free from their fundamental error, which consists in making Theology a compromise between opposite views, and so ultimately dependent on opinion. Rothe does not profess reconcilement as a system. But however absolute his own point of view, he cannot escape from the necessity of building it up with the ruins of older speculation. The soil of Theology is no longer virgin. Rothe comes after Schleiermacher and Hegel; and though a follower of neither, he cannot go to work irrespectively of them. Some one has expressed the wish that the Bible could be buried for a hundred years, and then dug up, that men might begin afresh with its interpretation. Something like this is necessary for genially moulding doctrine. After the delicate texture of thought has been torn to shreds by controversy, it is impossible to weave it at once into a homogeneous web. Time must elapse, and the topic must be faded out of memory, before it can become again a living and profitable substance for organic thought. Like an atmosphere that has been breathed, it must be re-oxygenized before it can be healthily inhaled again.

That he falls in the autumn instead of the spring of speculation, is Rothe's fortune, not his fault. But, in other respects, notwithstanding the peremptory self-assertion of his logic, he is not the man to found a school. He is wanting in the personal qualities. He obtains recognition as an eminent teacher; he does not attach followers. He is often compared to Schleiermacher, whom he resembles in some qualities: in the union of an energetic dialectic with the inward life, the deep religious sensitiveness. But he wants that which gave to the same faculties in Schleiermacher, the victorious force that carried all before them—greatness. Rothe's personality is feeble. A small man—sharp, clear, acute, intense, but not great,—he cannot impose himself upon his fellows.

Rothe's peculiar views can only be stated by those who have habitually followed his lectures; for his great work, his "Ethik" (1845), was published twelve years ago. Though it has long

been out of print, he declines to republish it; and it is known that he is now (1857) dissatisfied with the way in which much was there presented. His leading views, however, have doubtless not undergone much change. The basis of his "Ethik" is the identity of the moral and the religious. The "Ethik" is not a treatise on morals, as its title might seem to indicate, but includes besides the whole of speculative Theology. The moral relations, or the conditions of a Personality—of an Agent, is the central existence in the world. Into the moral is absorbed, on the one side, the material—on the other, the spiritual. As to the material, the lower steps and spheres of Creation are indifferent, till they have evolved out of themselves that unity of self-consciousness and self-activity—a human personality. In a "Person" matter is ultimately, through the creative power of God, raised above itself—it has evolved its own antithesis. When this personality has been thus evoked, the further problem is, that it becomes the determining principle of everything that is in contact with it. Man must appropriate to himself, subordinate to his uses, material Nature—that is, all the forces in action, whether within, or without, him. This is the moral problem;—a continuation of the process of creation, entrusted to the agency of the creature itself. But this process of adaptation is a gradual one—no less gradual than all the previous steps of creation. The first Adam is the incomplete man; and sin is the inevitable passage to the higher stage of being. The completed human personality is only won through a long course of toil and suffering, and finally culminates in the second Adam. The redeeming action of the Deity is thus a strict and steady continuation of his creative action. There is nothing arbitrary in the moral development of the race. The spiritual is no intrusive element. There is no breach of the continuity of law. The Church, or religious society, finds its completest realization in the State, or moral society.

This is a very meagre notice of a system so articulate and so deeply laid as that of Rothe. It may perhaps serve to indicate the direction of his thought. It is an attempt to deduce a consistent scheme from the starting-point of moral personality. It would deliver religious theory from the arbitrariness involved in the common conceptions. It replaces the purely formal freedom of divine and human will, by a rational, essentially determined series. In grandeur of design and vastness of compass, the scheme of Rothe raises its head far above any of the extempore theories of the Moderate school. But it shares in their weakness. Seemingly intent on its own work, it is unconsciously labouring to comprehend as much of existing opinion as it can. With all its appearance of vigorous logic, it has a side-eye for the received dogmatic forms. Conscious of not having the right to compel

assent, it would insinuate itself. It is but a transformed orthodoxy. The principle on which Rothe professes to stand—viz. the reduction of the ideas of spirit, grace, &c., into moral relations, is the annihilation of orthodoxy. But he is not steady to his principle: he is attracted out of his true orbit by the mass of Christological doctrine, to the superior attractions of which the moral explanation is obliged to yield.

III. We come lastly to the Theology of Orthodoxy, or the endeavours at a revival of the Confessions of the sixteenth century.

In a history of the Church, the recent movement of the orthodox party, its rise and progress, would form an important chapter. It would be difficult to exaggerate the state of feebleness and decay in which this party was sunk at the beginning, and for the first twenty years, of this century. All the learning, all the piety, all the zeal of the age, was gone into other channels. Unsupported by popularity among the masses, or favour at court, Old-Lutheranism was maintained solely by the obstinacy and bigotry of the least enlightened of the rural clergy. And as their numbers were never recruited, the prospect before them seemed to be the same lingering unpitied death in which the Nonjuring schism in this country was extinguished. But just before the fatal moment, the dying man showed signs of new life, the dry stump put forth new shoots. So full of surprises is history! Out of the very weakness of the party came the new strength. The decaying vitality of the principle of confessionalism it was which encouraged the Prussian Government to its attempt to unite (1821—1830) the Lutheran and Reformed into one State Church. The time seemed to be come when the schism which dogma had produced might be closed, since dogma was now unimportant. The bond of nationality might be substituted for that of symbolism. The union was accomplished. The strong hand of Government overbore all external resistance. But it awoke at the same time, within, the spirit of tenacity and exclusiveness. Men were found in that dead age—let their names be mentioned with the honour due—Scheibel, Guericke, Heubner,—who preferred their principles to their preferment, and refused submission to the civil power in a matter where conscience was involved. They suffered, but their resistance awoke the old spirit of Lutheranism. A few short years elapse, and lo! in the Union itself, an exclusive Lutheranism is the fashionable profession. Thirty years ago it led to martyrdom; it is now the only road to preferment. Nay, the reaction no longer rests at Luther and the sixteenth century. It goes back invoking "church principles," derived far anterior to the origin of Protestantism.

The Prussian Union was only the turning-point of the reaction. Its cause lay much deeper, and belongs to the history of Europe. Though culminating in Prussia, this "churchmanship" is no mere Berlin ware. The wave of the orthodox reaction has been perceptible, in one form or another, over a great part of the surface of Europe. It only belongs to our present subject so far as it has produced or coloured theological opinion.

We hear on all sides, and from all parties, of the rapidly hastening return of Germany to "the Faith." It is not so much a revival of zeal, as a correction of theological opinion, which is believed to be in progress. Wearied of endless debate, the German mind is preparing, we are told, to seek repose in the principles of the Reformation. It has exhausted itself in unsatisfying speculation, and quits in disgust the chase of philosophical shadows, for the solid and unchanging doctrines of "the Church." This current of opinion is attested as well by the alarm and discouragement of the friends of free thought, as by the triumphant self-congratulations of the party now in the ascendant. The phenomena of the day undoubtedly justify in some measure the exultation of the one party, and the consternation of the other. But when we come to look more closely into these appearances, we easily see that they are a disguise, and not a manifestation. They cover indeed a reality solid enough, but it is anything but a revival of the ideas or doctrines of the Protestant Reformation.

The movement now so rapidly propagating itself in Germany, but chiefly in Prussia, under the colour of orthodoxy, is really destitute of any religious or theological character whatever. It is simply a political movement, taking an ecclesiastical colouring. Its animating principle is the principle of Absolute authority. This principle or sentiment is just now undoubtedly gaining a hold on the European mind. Power rests less than ever on bayonets; it is becoming respectable. It is raising itself into a right. Might is not merely submitted to, it is recognised. Absolutism is emerging from a fact into an opinion. In the same proportion all reliance on the results of thought, all the elasticity of the individual will, is failing. The rights of conscience, and the necessity for freedom of expression, are less and less keenly felt. The independent and manly sentiments in human nature are, for the time, giving way to the equally natural impulses to timidity—to crouch, to fawn, to flatter. This doctrine of Power, and the corresponding sentiments of submission, are the doctrine and sentiments which are really active and popular. Their alliance with "Orthodoxy" is purely accidental. That is to say, a political conservative party seizes, for political purposes, on the creed which lay nearest to its hand. Any creed would answer equally well; for in putting forward the doctrines of the Con-

fession of Augsburg, this party does not do so because those doctrines are true, but because they are the doctrines of "the Church." The old Confession is no longer now the expression of a subjective conviction, but one objectively imposed to overrule conviction. It came in the sixteenth century from the conscience, and is now used against the conscience. It was in its origin a positive thought, it is now a negation of thought. The present "Orthodoxy" came into the world as a protest against orthodoxy; for, as Milton says, "A man may be a heretic even in the truth. If he believe things only because his pastor says so, or the Assembly so determines, without knowing other reason, though his belief be true, yet the very truth he holds becomes his heresy." This modern Orthodoxy is no legitimate attempt to bring into currency a true theological system in the place of false systems. It is a denial of Theology as a science altogether; a usurpation of force, to crush thought and supersede conviction.

The thorough determination with which this Neo-Lutheranism sets itself against all that is internal and subjective, and so against the very source of real religion, is seen in nothing more strikingly than in its language towards Pietism. So far is the new Orthodoxy from allowing the services of the old Pietist, or "evangelical" party, in reviving religious sentiment, that it delights in disowning and denouncing it.

Now Pietism, whatever its defects, was undoubtedly the protest of the religious consciousness against the arid Rationalism of the eighteenth century. And in the genial warmth of Pietism was fostered the might of Schleiermacher. As Luther sprung out of the Mysticism of the thirteenth century, so Schleiermacher out of the Pietism of the eighteenth. But the new Orthodoxy declares against Pietism, with its subjective and separatist impulses, its disposition to place practical piety above doctrinal adhesion. "Spener," says Kliefoth,* "was an exotic growth in the Lutheran Church. The Pietists and Rationalists, enemies to each other, were yet, like Herod and Pilate, ready to conspire against the Church." Pure doctrine is everything, the first and dearest treasure of the Church. The inward and individual principle of Pietism is but another manifestation of Rationalism. In this subjective religiousness the abstract, external, divine dogma proposes itself as the one "truth." There is no difference between fundamental and indifferent dogmas, "All is fundamental in the true system," says Stahl, "and let him who would swerve a tittle from the law be anathema." No less emphatically do they repudiate the Theology of the school of Schleiermacher. It is Ideology; a theology of rhetoric, not of facts; a Utopian pursuit of "the Church of

* "Kirchliche Zeitschrift, ap Schwarz," p. 336.

the future." On the other hand, the Lutheran Church is no ideal Church. It exists. It is the historical Church of Germany; the Church that has been transmitted to us from the Reformation. It has defined rights, recognised by the Constitution of the empire, and, through that recognition, guaranteed by the public and international law of Europe. This lawyer-like tone is characteristic of the writers of the Orthodox party. Theology is not the expression of the spiritual consciousness, but a concatenation of formulæ imposed upon the understanding. The Church is not a free association for purposes of edification, but an institution under solemnly ratified articles. No one can belong to it who cannot exhibit the old title-deeds of the Confession.

Such an ecclesiastical tendency is not likely to produce much in the province of Theology. The party has other purposes—secular interests occupy it, and theological thought is an alien and artificial effort. Their "system" is not intended to supply material for the speculative activity, or an object for religious contemplation. It is a mere calculus, from which formal consequences only can be deduced. It has neither mind nor heart in itself, though it may be dexterously employed by the understanding to silence others. Their only theologian worth naming is Hengstenberg. His attempts have been chiefly confined to the Old Testament. His arbitrary and lawless interpretation, and outpourings of rabbinical lore, mixed with scholastic allegorizing, impose on the ignorant, but have been received with amusement and ridicule by scholars. The truth is, that what attention has been bestowed on these absurd displays of learning gone mad, has been attracted, not by any merits of the books themselves, but by the position their author occupies at Berlin. This position he has gained by means of his powerful organ, the celebrated "Evangelische Kirchenzeitung." His history, as given by Schwarz (p. 91, fol.) is as follows.

Hengstenberg first appeared as "Privat-docent" in Theology in the University of Berlin in 1824. Just at that time, the party which is now grown into the great Orthodox party was beginning to show itself in the form of a semi-pietistic party. It was favoured, and indeed was in some measure created, by the late King. Hengstenberg attached himself to it. Royal favour, and the zealous backing of a thriving party, supplied the want of professional qualifications, and he was successively appointed extraordinary (1826) and ordinary (1827) Professor of Theology in the University, alongside of Schleiermacher and Neander! In 1827 he founded the "Evangelische Kirchen Zeitung." Under his clever management this journal rapidly became a power. With an instinctive knowledge of his field of operation, the court and society of Berlin, he brought into play every engine by

which a newspaper can work upon the peculiar class of passions and jealousies which gather round our most sacred beliefs. A ramified system of espionage was established by correspondents on "Church affairs" throughout the provinces. Students were encouraged to delate their Professors. Hinted suspicion alternated with loud denunciation and demands for expulsion from the Church. Growing bolder by success, it flew at higher game. At first the Rationalists were denounced in the mass. They were classed with demagogues as disturbers of settled order, while the Orthodox were shown to be firm supporters of "the throne." Then men, like De Wette, Bretschneider, and Ammon, were signalled by name as unbelievers. And at last Schleiermacher himself became the great mark for these poisoned arrows. It was not, however, till after Schleiermacher's death that this terrorism reached its acme. The publication of Strauss' "Life of Jesus" (1835) brought the theological panic to a crisis, and created an irritable state of public feeling, which was the very atmosphere for such a journal to thrive in. A sort of Papal tribunal was erected in Berlin, before which everything alike was brought up to be sentenced. For the talent of the paper at no time consisted in its writing. It scarcely pretended to criticise; it only abused. Satire, sarcasm, irony, the finer weapons of even unfair criticism, were unknown to it. It did but denounce and damn decisively, and that was all that its applauding public wanted. The events of '48-'49, and the transference of public interest to another order of ideas, gradually weakened its power over opinion. Though the journal still exists, it has greatly given way before younger and more zealous rivals. Already indeed, within the bosom of Neo-Lutheranism itself, has risen up a young party, who appear likely to draw off into themselves all the sap and juices of the parent stock.

This "Hyper-Lutheranism," as Dr. Schwarz calls it, is rather a development, than a rival, of Neo-Lutheranism. The New Lutheran Orthodoxy has nothing but the name in common with the Lutheranism of the sixteenth century. Its whole principle, indeed, is that of the externality of the Christian Institute, against which Protestantism was an insurrection. It is, at bottom, the conservative Catholicism of the sixteenth century, though without the formal confession of Catholicism. The Young Lutheran or "Church" party have advanced a step further in the same direction. Not that they adopt, or incline to adopt, the ceremonial or mythological developments of the Catholic Church. But those rites and those doctrines which have made most noise in the Romanist controversy, are those which are the least of the essence of Romanism. The Virgin and the Saints, Reliques, Images, Purgatory, and Masses,—these bywords with the

vulgar and the unthinking, are powerless decorations, or natural development. The one essential principle of the Catholic system is the control of the individual conscience by an authority or law placed without it, and exercised over it by men assuming to act in the name of Heaven. Towards this principle Young Lutherdom has made, and is still making, open and avowed approaches. This German "Puseyism," is represented by such names as Kliefoth, Vilmar, Kahnis, Delitzsch, Petri, &c. This party not only repudiate all approximation to the "Mediation-Theology" as heretical, but affect to look on Hengstenberg and his friends as already superannuated. They belonged to a period of transition. "Hengstenberg," says Kahnis, "was useful in making the first breach in the fortress of unbelief." He has done his work; the new era of "Faithfulness" requires other strength. The ultra-Lutheran party have accordingly seized on the ideas of the Visible Church and the Sacraments, and are endeavouring, with perseverance and success, to bring them into vogue. It costs them, indeed, some little trouble to state these conceptions in harmony with the genuine Lutheran doctrine of "Justification by Faith." Still, in the inconsistent and clumsy Realism of Luther's teaching on the subject of the Sacraments, there is something which serves the purpose, and gives plausibility to this anti-Protestant view. But it is in their doctrine of the "Ministerial Office" that this effort to escape under false colours betrays itself most palpably. Lutheranism laid down in the most distinct way the doctrine of the universal Priesthood of all believers, in contradiction to the doctrine of the Mass. The office of preacher or minister in the congregation is, in the Lutheran Church, always described as a "means of grace." It is so most strictly in conformity with the principle of Protestantism. For in preaching, the "grace" is not conveyed by any material or physical medium; it is conveyed direct to the understanding through the intelligent vehicle of language. The process of communication is thoroughly human and rational. Divine "grace" is here seen as an entirely moral influence, penetrating the human subject, but in subordination to the laws of that subject. Hence it follows, that faith in the hearer, that is to say, a moral receptivity of the subject, is an indispensable condition of the operation of the word spoken. This is the proper Lutheran doctrine. But such a doctrine is quite counter to the views of the new ultra-Lutherans. The difficulty they are in would not be felt in this country, where, at least south of the Tweed, no sensible educated person thinks of a sermon more than as an instruction in religion, a reminder of duty, or an aid to thought. But it is otherwise through a great part of Germany. However lax the attendance at church

may be, the principle of the "Preaching," as a means of grace, has still a practical recognition. A party, therefore, affecting to be pre-eminently Lutheran and Orthodox, cannot, like English High-churchmen, run down sermons in order to exalt the Sacraments or the Prayers. They are obliged, therefore, to cast about for an indirect mode of evading the purely "rational" doctrine of old Lutheranism. Kliefoth, *e.g.*, lays down, that the preacher is a merely instrumental medium, like the material elements in Baptism or the Lord's Supper—a non-rational vehicle of the gracious infiltration. This instance is not cited for the sake of its absurdity—the absurdity of exalting preaching into a sacrament in order to depreciate it—but to show the spirit of this hyper-Lutheranism, and the shifts to which its "Theology" has recourse, in order to maintain itself under the false mask under which it is necessary to its success to fight. For exposure of its essentially Catholic character is the obvious reply with which this illegitimate Lutheranism is met. But this line of opposition makes little impression upon it, and has apparently no power to check it. "Kirchenthum," so it designates itself, rides triumphantly on in Prussia, and openly boasts that the future is its own. If its Theology is not patronized at court, it is at least not discouraged. Government and its adherents profess and support the New Lutheranism, but are willing to allow this advanced guard to essay at its own risks and perils the conquest of public opinion. If it fails, it can be disavowed; if it succeeds, it will draw the State Church along with it. The hierarchical Lutherans have, therefore, hitherto been cautious not to break with their old partizans, in the expectation that they should in time carry them with them. They have had recourse to the expedient of declaring the points on which they have innovated on Neo-Lutheran views, "open questions." Thus they have avoided the breach which took place in England some years ago between the Tractarian and the old High-Church party, and which proved so damaging to the former. Also, they have warily shielded themselves from the storms of popular Protestant indignation, by letting alone that mimicry of Romish ceremonial, and those accessories of minor fancies or beliefs, which, though really harmless, yet constitute the vulgar conception of "Popery." There is no jealousy lurking in the popular mind of the catholicising Lutherans as likely to go over to Rome, either in a body or individually. They will not solve the situation by the weak device of going to the mountain; they will bring the mountain to Mahomet. A system identical in principle with that of Catholicism is to be established at Berlin, for the use and oppression of Prussia. Religion is to sanction and consecrate the bureaucratic absolutism of North

Germany. Instead of a mere State Church supported by power, the deeper theology of Young Lutheranism will base the "Throne" upon a religious doctrine contrived expressly in the interests of "Order."

The result to which our comparison of theological tendencies has come may be thus briefly summed up. Of the three categories in which we have arranged the present tendencies, that of the Middle party counts by far the largest number of adherents, including many and various shades of opinion within itself, as well as three-fourths of the sensible and well-educated among the clergy. But it is not strictly a school of Theology. It is determined by other than religious or critical considerations. It depends for its material on other independent sources of thought. It ebbs and flows not by its own laws, but in sympathy with the tides of other seas. All doctrines may be found in it, but they are not native, but only naturalized citizens. It contains net results, and no productive powers. Such a denomination will always exist. When it is comprehensive, numerous, and respectable, it furnishes the best possible foundation for a national Church. It is unfavourable to religious zeal, and not generative of speculative development. But it is patient, tolerant, liberal, not repressive, though itself stationary. It will encourage learning, and the literature of Theology, though the earnestness of religious thought will problably seem to it disturbing and revolutionary. Were the Governments of North Germany even ordinarily prudent and clear-sighted, they would see that in the Moderate party, and on the basis of Mediation-Theology might be reared the structure of a durable, comprehensive, *safe* church polity. These little governments however are, it seems, not a field in which even common-sense statesmanship can be acquired. Absolutism has definitively allied itself with the Orthodox party. In Hesse, the Naples of the North, Vilmar, at once dishonest and fanatical, has forced on, at the point of the bayonet, a hierarchical revolution, and set an example that other States are ambitious to follow. Prussia has enlisted Orthodoxy in its service, and smiles on the efforts of conservative divines to extemporise mushroom theories of the 'Church' which are to turn to the profit of irresponsible power. Of the prospects of this party, Schwarz says:—

"If we are not mistaken, the zeal of the ultra-Lutheran party promises it wide diffusion and great power. And we are far from wishing that this natural progress should be checked. We heartily wish this 'churchmanship' a development such as itself could desire. For we hope that in and through that development would be thrown outwards all those unhealthy humours which are at present lurking in the constitution of our Reformed Church—the seeds of radical and

dangerous disorder. Such a purge of Catholic leanings and sympathies is indeed sorely needed, for they have of late years risen to a formidable head. It is no mere question of theological crotchets. We have a deep moral need of Protestant ideas on the nature of the Church, on the value of authority, on the essence of the Sacraments, on the relation of a Confession to the inward conviction. All these questions demand to be answered afresh out of the depths of Protestant consciousness. Nor can we feel much sympathy for the Mediation-Theology, and the coalition of opinion so highly commended by its friends. It is highly improbable that victory will remain with that party. In the basis of their Theology there is a want of clearness and truth. The "consensus" which they put forward as their scheme is not a harmony of existing belief or actual consciousness. The wide gulf that separates old Lutheranism from modern opinions is but artificially covered over. They themselves are not orthodox in the old and proper sense; and this not only on the points at issue between the Lutheran and Reformed Confessions, but in the generic and essential doctrines of Protestantism. On the other hand, they are unmistakeably inoculated with the speculative temper of modern times, yet they follow where it leads only with a half-mind, with a timorous conscience, and stammering utterance. They have constructed a piecemeal Theology, dovetailed of affirmation and denial right and left; a system of half-truths, harmonies, caveats, and exceptions; a thing to which no one can give himself with hearty assent. It is undeniable that the divines of this colour—Nitzsch, J. Müller, Dorner—are in acquirements, insight, and refinement, far before their often coarse opponents. But their fine-spun and elaborate Theology wants one thing—simplicity. It has none of the penetrating power of creative genius, the sway of an idea capable of animating an organic whole. The rude and shapeless blocks of Orthodoxy with which the ground of controversy is strewn, look both respectable and enduring by the side of the porcelain ware of this Theology of reflection. We cannot question herein the justice of history, which has ever denied the eclectic a separate niche in her temple, and has obliged the theologian who has spent a life in accommodations and concessions to submit to be tried by the standard of strict Orthodoxy."—*Schwarz*, p. 429.

The two sections of Theology, then, which seem at present in possession of the field, have, it appears, no root in themselves, and can wield no permanent power over opinion. The Orthodox Theology is intrinsically the weakest, but externally the most powerfully backed. It is a mere ecclesiastical flag, hoisted to give a colour of legitimacy to the war against conscience. It may reign, but will not persuade; and its fortunes are linked, for good and for evil, to those of the conservative and aristocratic party in Europe. The Mediation-Theology exercises a respectable sway over opinion, but is essentially shifting, indeterminate, and relative. Whether or not circumstances may occur which would

rekindle a real and honest speculative Theology, it is idle to discuss. Should, however, some renovating impulse be communicated to thought from without, it is impossible that the experience of the past should be wasted. Real ground has been gained. Intelligent men understand each other better; good sense and earnestness have more and more weight. Meanwhile, the solid acquisition to theological science has been won by the small and uninfluential circle of scholars who have devoted their conscientious industry to the critical and historical matters which have become so intimately bound up with the Christian religion. While all the speculative attempts confess more or less of defect and exhaustion, this school alone has established results. Its power has lain also in its possessing a definite aim, and a limited material. Criticism does not, like speculation, set out on a voyage of discovery, or undertake the construction of a religion *à priori*. Its problem is comparatively narrow, and even this is not its own selection. What is the character and value of the Christian records? All of us were asking this question, either aloud, or in the silence of our own hearts, and receiving mere accidental and most unsatisfactory answers. Criticism attempts to answer this question, on distinctly stated principles of inquiry—principles not arbitrarily laid down, but the same by which all other written records whatsoever must be tested. When it has once answered this question, its work is done. We are not to look for infinite discoveries in this direction. The point can be settled; and the time is ripe for a settlement. While speculation is in abeyance, this, the preliminary of all theological speculation, can be arranged. And once settled, historical criticism has discharged its mission, the Renaissance movement is complete, and philology may lay down her arms, with the satisfaction of having removed at least one of the great stumblingblocks in the way of the truth-loving and serious religious inquirer.

Art. II.—The Hindu Drama.

1. *Sakoontalá; or, the Lost Ring. An Indian Drama. Translated into English Prose and Verse, from the Sanskrit of Kálidása.* By Monier Williams, M.A., Professor of Sanskrit at the East India College, Haileybury. Hertford: Stephen Austin. 1855.
2. *Vikramorvasi, an Indian Drama. Translated into English Prose, from the Sanskrit of Kálidása.* By Edward Byles Cowell, B.A. Hertford: Stephen Austin. 1851.
3. *Málaviká und Agnimitra, ein Drama des Kálidása in fünf Akten, &c. (Málaviká and Agnimirka, a Drama by Kálidása.* Translated from the Sanskrit for the first time, by Albrecht Weber.) Berlin. 1856.
4. *Le Chariot d'Enfant, Drame en Vers. Traduction du Drame Indien du Roi Soudraka.* Par MM. Méry et Gérard de Nerval. Paris. 1850.

HORACE WALPOLE said, "Life is a comedy to those who think, a tragedy to those who feel." Had he lived a hundred years later, he might have added, "and to those who both think and feel, who temper their passion with reason, and enliven their reason with sentiment, it is a Hindú play." This mingling of the mask and the cothurnus, exciting passions only for the pleasure of allaying them, is essentially the characteristic of the Indian drama.

Translations from the Sanskrit are yearly produced in Germany, France, England, and even Italy; but when we remember that specimens by good hands of some of the best literary pieces of India (*e.g.*, the "Sakoontalá," of Sir W. Jones, and the "Bhagavad-Gitá" of Sir C. Wilkins), have been circulated through Europe for the last seventy years, we confess our astonishment that the demand should not be greater than it is. But English indifference to everything Indian has long been seen and deplored. Gentlemen can be oracular concerning the Indian examination scheme, cadetships, writerships, Calcutta appointments, and the threatened reduction of salaries, without deigning to reflect that the two hundred millions of subjects for whom all these officers are designed, have a national character which it behoves them to study, and a national literature which is the only key to that character. Of those who have heard of a drama in India, how few have ever felt interest sufficient in it to take up a translation of "Sakoontalá," and examine its merits!

There are some who deny to the land of the Bráhman even the originality of its literature, and would eradicate all that is native in feeling or habit from the soil. Among other things, they assert that the Hindú theatre is of Greek origin. We have it on the *extremely* satisfactory authority of Plutarch, that Alexander took with him beyond the Himálayas a company of tragedians versed in the plays of Sophocles, Euripides, and Æschylus. Other authority, equally reliable, assures us that Greek slaves or captives were wont to take their victors prisoner by their clever histrionic strutting. Lastly, we have the puzzling introduction in several of the principal pieces of a *Yavaní*, or Bactrian woman, whom the anti-Indianists have insisted on claiming as a genuine Ionian all the way from Asia Minor.

These pieces of evidence are nothing more than possibilities, if taken separately. It is only when taken collectively, that they give the opponents of the doctrine of a spontaneous civilization in India a claim to refer its best works to Greek suggestion. If, then, we annul one of the components, we weaken the whole argument. We certainly do not believe that Alexander planted the Greek drama in India. In the first place, all who know from the literature that remains to us, what the character of the Hindú people must have been in the fourth century B.C., will not dispute that the Greek tragedy could never have found a home in the far East. Nor have we any internal evidence of its having done so. There is not nearly so much resemblance between a Hindú and a Greek play, as there is between "Romeo and Juliet," and the "Antigone." The drama of India is especially romantic, the tragedy of Greece precisely the reverse. The romantic drama did not even commence in Greece till after Alexander's death; and even when it attained its newest character many years later, it differed immensely from the romantic drama of the Indian Peninsula. On the one hand, we have division into acts, and the remains of a decided religious character; on the other a chorus, and the domestic satires and didactic platitudes of Menander.

But if the Hindú drama does not owe its origin to the slaves and camp-followers of the Macedonian, it can be attributed to no other than a native source. With the exception of the strange drama of China, Asia owns no other than this; and if its origin be really Greek, it is truly wonderful that India alone of all the countries through which the son of Philip passed, and in which Greek civilization took far deeper root than in Hindústán, should have retained any traces of it.

But the denial of spontaneous origin is not the only accusation brought against this unfortunate branch of literature. It is courageously advanced that the drama of India, whatever its

origin, is really no drama at all. Now, this is harsh treatment, to place Kálidása and Bhavabhúti on a footing with the authors of "Festus" and "Firmilian," to degrade—we, at least, consider it a degradation—the finest dramas ever written, to the rank of what in modern literary parlance are called "dramatic poems."

We have placed at the head of this article the title of a French version of the famous "Mrichchhakatí," not because it is by any means a faithful translation of Shudraka's one play, but as a proof of the adaptability of the Hindú theatre to our modern stage. We have seen the "Antigone" coldly received by an audience of German *savans*, though it had the support of Mendelssohn's music, and the best trained company in Germany. But this French version of a Sanskrit play had a long and popular run at the *Odéon*, and its libretto has reached two editions, though the characters were in no degree more highly coloured, nor the diction more embellished than in the original. This is the only practical refutation that we can give to those who urge that the Hindú drama is readable, but not representable; but we trust that we shall make it clear that these plays were written with as much dramatic art as the appliances of an age, in this respect parallel to Shakespeare's, could afford.

Perhaps the most peculiar feature in the Hindú drama, and the best proof of its spontaneous origin, is its originality. It differs from everything that the Western world of literature has produced. It is essentially Indian, as much so as the game of chess, or the doctrine of metempsychosis, while, like these two, it is among the few Indian things that do not suffer in exportation.

To illustrate this, we must say a few words on its probable origin.

The institution of caste restricted all the higher intellectual pleasures to two classes: the Bráhmanical and the noble. This is why we do not find the drama asserting a prominent place, or rising to any degree of perfection, until the period of the great empires. We have, in fact, very few traces of its existence at all before the first century before Christ.* But we have no doubt that the traces which are found are sufficient to prove that in India, as in Greece, it had a ceremonial and even a rustic origin. Even when brought to perfection, plays were acted only at religious festivals, were composed for them alone, and rarely, if ever, performed in the same place a second time. Every piece of the classical period begins and ends with a benediction. The very names given to the different kinds of plays—Nátya, Nritya, and Nritta, prove that the drama began with dancing and gesticula-

* Farther on we shall give our reasons for agreeing with those scholars who consider the "Mrichchhakatí" to have been written after the Christian era.

tion, intermingled with songs and dialogue; and this was the case, too, in Greece. The fourth act of the Vikramorvashí, to which we have already referred, is a most powerful and beautiful picture of the temporary love-madness of the hero Pururavas. His gesticulations are accompanied with music of peculiar measures, continually changing, the names of which have the appearance of belonging to a much earlier date, and which neither native commentators nor European scholars have been able to explain. The measure of most frequent occurrence is the Dwipadiká, which, beginning with a number of short feet, dies away at the end of the line in a prolonged strain, and must have resembled the native songs of the present day. The hero's soliloquy is likewise accompanied from time to time with dancing and wild gesticulations, while ever and anon a wild song of one stanza bursts in from behind the scenes in varying measures. Here, then, we believe is a remnant of the old dramatic entertainment at religious ceremonies, with its dancing and singing; while it is possible, though we have no authority for it, that the burden was taken up by a *chorus*, then placed behind the curtain, but originally ranged like the chorus of Greek comedy, simply behind the performer.

But whatever was the origin of the drama in India, we find it at the court of Vikramáditya the Great, fifty-six years before Christ, brought to its highest perfection by Kálidása the Great. We say "the Great," because, with that tedious desire peculiar to India of perpetuating a distinguished name, the native writers tell us of many Vikramas and many Kálidásas. But we believe that most Orientalists are now agreed in placing the great poet at the court of the FIRST Emperor of Ujjáyiní (Oujein), the founder of the Samvat era; and in considering the other Kálidásas as inferior constellations who assumed his name, or the pure inventions of native writers who desired to exalt the honour of any particular monarch, by asserting that the famous dramatist adorned his court.

Here, then, we find the drama as the luxury of a monarch or a great noble. The dramatist is a Bráhman who has made the stage his particular study, and who, if he did not actually instruct the actors himself, took good care, by the numberless minute stage directions which he inserted and which are still preserved in his pieces, that his meaning should never be misrepresented. Thus we have directions for sighing, bowing, looking round, walking about, expressing joy or grief, and even raising the hand.

We cannot do better than compare the dramatic representations of this period with those which immediately preceded Shakspeare's day in England. Thus we have no reason to believe in

the existence of regular companies. The actors were most respectable people. The manager, indeed, whose duty seems to have been the supply of all the contrivances and properties, and even the erection of the stage, was himself a Bráhman. The women's parts were acted by women or young men, but more commonly the former. It is not known that any regular theatre was ever built for dramatic representation, and from their rare occurrence it is clear that there was no necessity for any. Our only information on this subject is in the "Sangíta Ratnákara," a work belonging to the twelfth or thirteenth century. From the extract from this work which Wilson gives,* it appears that a hall or court, called the Sangíta-Shálá or Music-Hall, was attached to the palaces of kings or wealthy nobles, for the especial purpose of operatic representations. It is described as covered with an awning, supported by pillars, "richly decorated and hung with garlands." It is almost unnecessary to add, that the performances originally took place in the day-time,† though it is possible that at a later date, when manners had become more luxurious and less manly, they may have accompanied the long nocturnal revelries of debauched princes. In the "Mrichchhakatí," the greater part of the time of action is supposed to be night, and in one scene the change from night to morning is described; but whether this is any reason for supposing that "foot-lights," or rather side-lights were employed, we cannot say.

The audience consisted of the master of the house on a throne in the centre of the hall, the retinue being ranged on his left, his guests on his right hand. Behind him sat the officers of state or household, while the "poets, astrologers, physicians, and men of learning," were placed in the centre, — a place of honour which officers of state would scarcely yield to them at the present day. "Persons carrying wands are to be stationed to keep order, and guards are to be placed in different directions." We cannot imagine that these guards had the duties of our policemen to perform, or that there were any "gods" to create a disturbance. There can be no doubt that the audience consisted of none but the higher classes and their attendants; for, indeed, the civilians and populace would not have understood the one-half of the play, which was in the written language, Sanskrit, not in Prákrit, the common dialect. In "Vikramorvashí" the manager calls the audience "learned and reverend," which would not have been applied to a mixed multitude.

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* "Hindú Theatre," Introd. p. 73.

† This is also Wilson's opinion. See a note on the manager's speech in "Málatí and Mádhava."

The entire absence of scenery is another point of resemblance between the Hindú theatre and that of the Elizabethan period. A simple curtain was suspended between the Ranga-Bhúmí, or acting stage, and the Nepathya, the *coulisses;* and whenever a change of scene occurred, it was probably announced—at least so Wilson thinks—by the Praveshaka or Introducer, who sat at the side of the stage for that purpose.

Such was the state of the stage in Kálidása's day; but a couple of centuries later, this simple arrangement was found inadequate to the growing complication of the plots, and a second curtain was introduced at right angles to the one which formed the background, dividing the stage into two compartments—the one generally representing the interior of a house or public building, the other the street or place without; and the "Mrichchhakatí" could never have been acted without some arrangement of this kind.

The stage properties were few and simple. It is another proof that the Greeks did not introduce the drama into India, that we find no mention of any mechanical contrivances for aërial ascents and descents, which however are constantly supposed to take place in the Indian plays, and wherever it is so, stage directions are given to the charioteer and his passenger to mimic the action of chariot-driving. At a later period chariots must have been brought upon the stage, and were probably drawn by live horses. Scene I., Act viii. in the "Mrichchhakatí," could not have been acted without this.

The period of Indian literature, which may rightly be termed "classical," ranges over nine centuries, beginning with that next before our own era. This was its Augustan age. The Buddhist revolution had emancipated thought. The schools had slunk away before originality, and originality was not yet absorbed in criticism. It was the age that produced the Lyrists, the Episodes, the Nala, the Megha Dúta, the Bhagavad-Gítá, and the Law-Books. But the drama is the cream of all these. It alone is unshackled with Mysticism, unpoisoned with Bráhmanism, and it alone, we believe, presents a true picture of the manners of the time.

This leads us to speak of the state of society during this period. We begin with Vikramáditya the Great, and it is curious to mark the parallel that his time presents to the contemporaneous age of Rome. Vikrama seems to have united the characters of Julius and Augustus. He began by driving the Scytho-Bactrian invaders beyond the Indus. He founded and consolidated the great northern empire of India. He raised Ujjáyiní to the chief seat of learning. Manly as a warrior and a lover of field sports, magnificent and ambitious as a monarch, he was no less the patron of arts and sciences. Seated in his presence-chamber, he

threw open his court to all who had anything to recommend them. The passport of the new comer was a name known to arms or arts; the talisman of the king's favour was a ready answer or a sentence that evinced wisdom. Among the learned Bráhmans who surrounded him, and whose superior intellect he greeted with a dignified reverence, were nine who were called the gems of his necklace. Of these the most celebrated were the physician, Dhanwantari; Amarasinha, the lexicographist, whose work is still the highest authority for the purity of Sanskrit words; Vararuchi, the poet and linguist; and Kálidása, the poet and dramatist, the brightest gem of all. So, at least, the native authors tell us, and this is no place to discuss the real date of each of these worthies. Suffice it to say, that whatever extravagances tradition may have fostered, one thing remains certain, that Vikrama found literature labouring under certain difficulties, removed these, and made his court and his capital the palace of knowledge and wit. We are told, for instance, that everybody rhymed and apostrophized under his benignant nod. We are told that he would ask a new comer some mysterious question, or set before him some half-couplet to complete; and if he satisfied the monarch, a hundred thousand *dínárs* were poured into his hands at once.

But this magnificence was as yet unattended with licence. The life of great capitals had not marred the purity of society. There was still a free intercourse of men and women. The young ladies held nearly a similar footing to that which they now hold in England or America. It was possible for a lover to proffer his own suit without the intervention of papa and mamma. It is true that women have always ranked lower in India than they have done in the West. The lords of creation had it all their own way, even in the next world; and though woman was not actually denied the possession of a soul, it was necessary that her devotion to her husband should be almost servile, in order to obtain a place by his side in heaven. But still there was a certain chivalry in this age, which was quite unknown to a later one. We see this in the ease with which Sakoontalá's companions receive Dushyanta, in the little sentence of Anasúyá, "There is no impropriety in our sitting here with our guest." In short, though the wife and the daughter in India were never a companion for the man, they seem at this period to have been at least admitted to his intimacy.

But as with all empires, so with that of India. The magnificence of Vikramáditya soon degenerated into luxurious indulgence in the reigns of his successors. The men of genius who circled round his better throne were replaced by prattling idlers, who mimicked their wit, while living upon patrons no nobler than themselves. The magnificence of each succeeding monarch could

not but breed vanity and idleness. The courtier turned flatterer, the flatterer a pander. The *habitués* of the court filled up their waste time with political intrigues, which soon gave way to those of another kind. The wives and daughters of the inhabitants of Oujein were no longer safe; and just as the ease of the court under François I. or Henry VIII. paved the way to profligacy under Charles II. or Louis XIV., so the magnificence of Vikrama's court was succeeded by the dissoluteness of a Shúdraka's or a Bhoja's. In every land, at every age, too great a freedom of manners has always produced a reaction. As at Paris and at Athens, the respectable members of the community could no longer trust their women, and placed them under strict surveillance. The daughter must never quit her mother's side, the mother never leave the husband's house. The guest must be introduced to the wife and daughters only when he is well known; and so female society ceases. The result, on the one hand, was, that marriage was undertaken entirely by contract—that the affianced scarcely met, certainly never conversed before the wedding-day; and that consequently the bride was still a child, still fresh from the nursery and her mother's side, when she was led to her future home. On the other hand, men found that they could not dispense entirely with female society—they felt the necessity of the companionship of lighter hearts and wittier heads than their own; and to supply this demand a new class sprang up, which was destined to complete the wreck of respectable society.

As in Athens and Alexandria of old—as in Paris and Florence of to-day, this supply was yielded by the lowest classes. The Hetæra was the daughter of a slave or a foreigner. The Veshyá was the offspring of the Shudra or serf. Destined by her degraded parents from early girlhood to recruit the ranks of the courtezans, she received a liberal education in all that fits woman for the society of man. She was trained to be Aspasia as well as Laïs, Madame de Pompadour as well as Ninon. But if we can rely upon the "Mrichchhakatí" as a faithful picture of manners—and we see no reason to do otherwise,—her position was by no means unrecognised. Though she was denied the society of women of respectability, faithful housekeepers and prudent mothers, she was not ignored by them. She seems to have been accepted, as indeed she is to this day in Paris, as a necessity of society. Her *coteries* were frequented by Bráhmans of the purest moral reputation, quite as much as by dissolute members of the royal family. She was a public character, the prime minister of society, and her house was the club at which all assembled. She was the companion of poets and philosophers, and it was in her society alone that a man really felt at his ease. In fact, her reproach rather seems to have been her social position than her

individual character. Where women were so closely guarded that no married, still more no unmarried woman could even speak to a man out of her own family without danger of scandal, her position was of course one of scorn; but it does not follow that her character was such as is generally ascribed to a woman under these circumstances. Though it was difficult for her to marry, she might attach herself to one person, as we find in the story of Kálidása in the *Bhoja-Prabandha*, while on the other hand she is often described as modest, retiring, difficult of access, and possessing all the other feminine virtues. In fact, the Veshyá of the classical age appears to correspond with the Athenian Hetæra of the better stamp, and such we find her in the "Mrichchhakatí." It is only at a later date that she degenerates into the *amica* of Rome.

But along with this state of female society we find, as we might expect, the grossest self-indulgence, luxury and licentiousness among the men. The princes and nobles became drunkards and profligates, their attendants panders and flatterers. The nights were passed in revelry and debauch, and the business of the day conducted with passion rather than cool-headed justice.

If such was the state of things among the higher and richer classes, that of the lower was little less satisfactory. For instance, we find public gaming-houses existing, and even tolerated, and the scenes of constant brawls and disturbances. Gaming was a desperate passion among the Hindús, and is so still, though their moralists have denounced it as among the worst of crimes. Manu would have the gambler punished with death, but the law-givers between the second and fifth centuries after Christ (these are the limits within which Stenzler brings the date of Yajnavalkya) not only connived at the vice, but have left directions for the management of public gaming-houses, which prove that they had been some time in vogue. In short, whether we judge from the picture of manners so vividly presented in the "Mrichchhakatí" of the second, or that afforded by the "Bhoja-Prabandha" in the twelfth century, there can be little doubt that civilization reached its culminating point about the time of our own era, and that thenceforward the vigour of the nation declined, till the death-blow was at length given by the rule of the Mussulman and the selfish creed of Mahomet.

We should, therefore, expect to find a great difference in the characters as well as the matter of the later drama. But this is scarcely the case, at least in that class of pieces which aspire to rank with the classical productions of Kálidása and Bhavabhúti. As in our own drama of the better age, as, still more so, in that of the Romans, certain personages were considered essential—not to the plot—but to the character of every play. The serio-comic nature of the Hindú drama necessitated a judicious mixture of

the salt and the mustard, and certain dramatis personæ having once succeeded, became standing dishes.*

The most important of these is the *Vidúshaka*, or diner-out, the *conviva* of Terence, the gracioso, the buffo, even the clown of later days. He is always a Bráhman. It was deemed auspicious to have at least one member of the religious caste to sit down with you to dinner, and the poorer Bráhmans, like the favoured clients, attached themselves to some wealthy friend or connexion, and voluntarily assumed the character of a *conviva*, to which no stigma was, however, attached. This individual is so common in all the countries of Europe, where a bachelor can possibly exist, that it is no matter of surprise to find him at his old post in India.

But in return for his dinner, the Vidúshaka was expected to make himself both useful and ornamental. He is always drawn, like the Conviva of Terence, in a state of chronic hunger. His whole thoughts are centred on the roast and the *entremets*. His romance goes no farther. He is the confident and constant companion of his entertainer. He appears to enter into all his feelings, listens patiently to all his sorrows, carries his *billets-doux* to the heroine, and then, in the moment of the deepest pathos, amuses the audience by proposing a culinary remedy for his love-sickness. Kálidása seems to have formed a right estimate of the importance of this personage to relieve the more serious parts of his dialogue. With him he is the true buffo, intensely good-natured, taking, of course, the hero's part, and full of quiet humour. Bhavabhúti, however, does not seem to have understood the necessity of occasional humour, or, at least, not to have had any capacity for it, and his plays are consequently far less pleasant reading.

The Vidúshaka is represented as extremely ugly, awkward, and even deformed; and in every respect answers to the buffo and clown of the present day. In the "Urvashí," his appearance is neatly indicated:—

"*King.* My child, salute my good friend, the Bráhman.

Vidúshaka. Why should the child be afraid of me. Surely he must often have seen apes about the hermitage."—*Vikram.* Act. v. p. 97.

His soliloquy at the opening of the "Mrichchhakatí," reminds us forcibly of the conviva of Plautus.

"Truly, Mitreya, your condition is sad enough, and well qualified to subject you to be picked up in the street, and fed by strangers. In

* After the decline of the drama, custom in this respect became rule; and the authors from the twelfth to the sixteenth centuries, who have written as voluminously on the drama as they have on every other branch of literature, have classed the kinds of plays according to the style of the dramatis personæ in each.

the days of Chárudatta's prosperity, I was accustomed to stuff myself, till I could eat no more, on scented dishes, till I breathed perfume, and sat lolling at yonder gateway, dyeing my fingers like a painter's by dabbling among the coloured comfits, and chewing the cud at leisure, like a high-fed city bull.* Now, in the season of his poverty, I wander about from house to house, like a tame pigeon, to pick up such crumbs as I can get."—*Mrich.* Act. i., ap. Wilson.

The next character of importance is the *Pratináyaka,* or hero's rival. This personage can, of course, be only introduced where the plot requires him, and accordingly we have very few specimens of him. The best is that of Samsthánaka in the "Mrichchhakatí," which, at the same time, we have no hesitation in asserting to be the best-drawn character in the whole Hindú drama. He is the king's brother-in-law, and like the fifth cousin of some petty German *Hoheit,* makes the most of his mite of royalty. From beginning to end he is intensely amusing. Conceited, foppish, a braggart and big-talker, he is at the same time the veriest coward ever born. When Vasantasená is pursued by him, and calls for her women to assist her, he turns in alarm to his parasite,—

"*Parasite.* Blockhead, she is calling her servants.
Samsthánaka. What! her women?
Para. To be sure.
Sams. Who's afraid? I am a hero. A match for a hundred of them."

He is dissolute, debauched, and drunken; always running after the women, whom, he thinks, can never resist his attractions, and always running away from them the moment they defend themselves. But his worst point is in his assumption of learning, and his eternal quotations and similes drawn from the Epic poets with malaprop incorrectness. To a Hindú of education, who knew these poems by heart, it must have been irresistible to hear his clumsy coupling of Kunti and Rávana, Draupadí and Ráma, as if some would-be literate among us were to talk of Falstaff pursuing Hermione, or Othello's jealousy of Romeo. This character is not overdrawn. He never sinks into Bombastes, but at critical moments becomes perfectly serious, and allows his real nature, that of a cruel, tyrannical bully, to come out in strong colours.

Besides these we have the Vita, or parasite, attached to the person of either the hero or his rival, and even to the heroine, if she is a courtezan or a public character. He, too, lives on his

* One let loose in the town at marriage ceremonies, after which it is invested with a kind of sacred character, and the townspeople take a pleasure in feeding it.—*Wilson.*

master, receives his confidence, advises and assists him. In the "Mrichchhakatí," he degenerates into a flattering pander, attached to Samsthánaka, and assisting him in all his villanies. At the same time he has learnt to despise the bragging, brainless prince, and expresses his contempt in a number of "asides."

The heroine has always her *confidante* and female attendant, who is generally a laughing, saucy girl, indulging her own little *affaires de cœur* at sly moments.

These then are the personages of second importance, by whom much of the business and a great deal of the dialogue is carried on. The characters of the hero and heroine depend, of course, on the imagination of the author, but there were certain canons of taste which could not be broken. For instance, both were obliged to be gifted with all the principal virtues, varied only by a sprinkling of amiable weaknesses. Even when the heroine was a courtezan, she was penitent, self-accusing, charitable, and timid in her love. We know no more beautiful female character in the drama of any country than that of Vasantasená, the repentant Laïs of the "Mrichchhakatí."

But the great characteristic of the heroine of the classical drama is her modesty. She speaks rarely, and almost always in "asides." Her passion is expressed in the ardent gaze, in the heaving of her bosom, and passionate remonstrances to her heart. In the Málatí and Mádhava, for instance, the heroine obstinately refuses to speak a word to her lover. Most of the conversation is carried on by her female friends, as when Shakuntalá says to herself in the king's presence—

"Be not troubled, oh! my heart, Anasúyá is giving utterance to thy thoughts."

Indeed, from the position of woman in the East, it would have been violating all taste and decorum to introduce a Katharine or Roxana; and the native writers amuse us with a list of feminine graces, such as *Lila*, mimicking a lover's manner or language; *Vichitti*, neglect of dress and ornaments through mental agitation; *Vibhrama*, putting the personal ornaments and portions of the toilette on wrongly, as ladies in a hurry occasionally turn their mantles inside out; *Kuttamitam*, the affected repulse of a lover's endearments; *Vikrita*, bashful self-restraint; and many other little wiles and coquetries, which perhaps are not peculiar to Hindú ladies. But after the 12th century we find plays of which the plot itself consists in intrigue, and the heroine, of course, is no longer the bashful, timid beauty of Kálidása. Such, for instance, is the Yayáti Charitra.*

* Every play has the peculiarity of mixing two dialects, the Sanskrit and the Prákrit, or the language of the learned and that of the uneducated, much

While we are on the subject of feminine modesty, we ought to say a few words about the delicacy throughout the classical drama of India. And here we must revert to the original intention of the stage—simply to amuse. As Bhavabhúti himself expresses it in his *Málatí and Mádhava*, "profound exposition of the various passions, pleasant interchange of mutual affection, loftiness of character, expression of desire, a surprising story, and elegant language," are the requirements of a Hindú play. If tears are called up, and fears excited, they must be allayed by pleasant humour and a successful issue. If the Hindús are of gentle passions, they are at least easily excited; and all that tends to rouse the passions of a simple people, who, being unaccustomed to theatrical performances, would naturally be much more strongly affected by the illusion, should be carefully avoided. Thus the later writers give us a list of prohibited exhibitions, such as hostile defiance, solemn imprecation, degradation of caste, great national calamities, kissing, biting, scratching, eating, the bath, the ceremonies of inunction and marriage, and so forth. But the "Mrichchhakatí" gives us an instance of what Horace so justly deprecates — killing on the stage. The fact is that these rules really applied to the stricter class of dramas — the *Nátakas*. We have a striking instance of the purity of the classical drama, and probably that of the manners of the age, in the "Sakoontalá" (p. 25). When an opportunity occurs for describing the seduction of a saint—not Saint Anthony—by a heavenly nymph, sent by the jealous gods for that especial purpose — an opportunity which a later age would have seized with avidity,—the maiden who should relate the story stops short in confusion, and the king delicately sets her at her ease by adding, "The rest is easily understood."

The educational system of the Hindús made it impossible for a man to marry till about the age of twenty-three or twenty-five. At that age his tutorage ceased, but in the meanwhile his parents looked about for a wife for the youth, and by the time he had finished his studies some arrangement was generally made, and the young man married off without any love in the matter. Consequently the heroes of these pieces are all married men. A

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as in Italy of the Middle Ages plays were written in which both Latin and Italian were employed. The respectable male persons speak Sanskrit, the women and lower male characters only Prákrit. At moments which admit of a higher style of diction, the ordinary Sanskrit prose of the dialogue rises into verse, but this is rarely the case with the Prákrit, which is, perhaps, another reason why the women talk so little. It is needless here to examine the *quæstio vexata* of the origin of Prákrit, it will suffice to say, that in Kálidása's day it was the language of all the uneducated, among whom are included "the ladies."

certain number of wives were allowed to a Bráhman and Kshatriya, but, as in Mohammedan countries, they rarely availed themselves of the privilege. No man could take a second wife without the consent of the first, and it is natural that the spouse should object to an addition to the establishment, which was likely to alienate her husband's affection from her. The plot, therefore, often turns on the difficulty of concealing the hero's attachment from his first wife, and, when all is arranged, of obtaining her consent. The jealousy of "madame," and the tricks she resorts to, to ensure her mate's fidelity, form an amusing variation in the plot. Málatí and Mádhava, in which Mádhava is still a student, is the only important exception to this rule.

Every Sanskrit play opens with a short benediction or prayer; but it does not appear by whom it was delivered. Just as it is concluded, however, an individual rushes upon the stage and cries, "A truce to this prolixity!" or some such expression of weariness. This person is the carpenter—not that æthereal being of Drury-lane or the Haymarket, who passes his night in clouds of canvas, with a pulley on one hand and a sky-wing on the other,—but the erector of the stage and stage-manager combined in one. He comes in and looks about him. Then he announces the occasion of the festival on which the piece is acted; and addressing himself to the audience, gives them an account of the play itself, its author, actors, and decorations. He then calls an actor or actress upon the stage, asks if all is ready, indulges in a little pettishness, and so the piece begins; the manager or carpenter himself often taking one of the principal parts. This proceeding reminds us again of the Greek Old Comedy, in the middle of which the chorus filed up towards the *theatron*, and in anapestic tetrameters addressed the audience about the author's poetical affairs, the object of his productions, and so forth; which address was called the *Parabasis*. The Hindú authors have always had the vice of affecting humility to cover a great amount of pride, and accordingly in two of the principal pieces, we find the names of the patron princes substituted for those of the real authors. These are the "Mrichchhakatí," attributed to King Shúdraka, and the "Ratnávali," attributed to Shrí Harsha Deva, a great patron of letters, and King of Kashmír between A.D. 1113 and 1125, but really written by Dhávaka. Who the author of the "Mrichchhakatí" really was we have no means of ascertaining; but there is no doubt that Horace Walpole, with all his toadyism, could have found but very few "royal and noble authors" in India, where literature was entirely confined to the Bráhman caste, and still less could a king, whose education was of a purely practical and legal nature,

have composed what is undoubtedly the best written play in India.

The plays were divided into ankas, or acts, generally containing the events of one day in unbroken continuance, and generally, but not always, having the same scene throughout. Of these acts five or seven is the common number in the classical drama, but they often extend to ten; and Wilson calculates that some of these pieces must have lasted five or six hours, and be three times the length of a play of Sophocles. The act is marked by the exit of all the persons on the stage,* the scene by the exit of one and entrance of another. The last act but one generally contains the grand climax; and in some pieces the favourable catastrophe and the "general clearing-up" is rather too hastily managed in the last act, and reminds us continually of the *Deus ex machinâ* school, so popular—under the form of a rich uncle, &c.—with railway novelists and French vaudevilles. The Hindú drama being essentially of the romantic school, the unities were not, of course, strictly respected. There is always a unity of action, and generally no very outrageous change of place; but the liberties taken with time, if not quite so preposterous as the representation at the Porte St. Martin—which extended from the days of the Druids to those of the Champs Elysées and Bois de Boulogne, or that other piece, played in London not many years ago, in which the hero was first seen on the stage as a darling baby, and made his final bow to the audience with the white head of seventy—are still rather bold. In the "Shakuntalá," for instance, time is allowed before the catastrophe for the offspring of the two lovers to grow up to a sturdy child; while in the "Uttara Ráma Charitra," no less than twelve years are supposed to elapse between the first and second acts.

We have said that the classical age of the Hindú drama concludes about the eighth century. Wilson, indeed, has considered two plays—the "Mudrá-Rákshasa," and the "Ratnávali," both written in the twelfth century, as far as we know—worthy of separate translations. But there is sufficient reason for not ranking these with their predecessors. The author of the

* The division into acts is peculiar to the Hindú and Roman drama, from which latter the modern stage has derived it. This might be taken as a proof of the Greek origin of the Hindú drama; for, since the Greek comedy, transplanted into Italian soil, shot up in acts, so too it *might* have done on Indian ground. But this is merely a possibility, scarcely even an analogical probability, and does not prove the converse, that, *ergo*, the Hindú drama owes its origin to Greece. On the other hand, we believe that some such division is a necessity of the romantic and domestic style, which Menander and the New Comedy did not give in to from the desire to preserve the classical appearance of the stage.

"Ratnávali," on the one hand, is a sad plagiarist, and has borrowed unblushingly from Kálidása's "Vikramorvashí," which is sufficient proof of his unworthiness to rank by his side, while its style and conception are so far inferior to that of Bhavabhúti even, that it would be an insult to the classical drama to include it in the category. Of the "Mudrá-Rákshasa," Wilson says that "there is scarcely a brilliant or beautiful thought" in it. Certainly, in everything but the plot, and one or two of the characters, such as that of the wily and vindictive Chánakya, this play is very far below its predecessors. For these reasons, we believe we are right in limiting the classical period to the eighth century, or the time of Bhavabhúti, in whom we already find symptoms of decay. The decline of the drama was not, indeed, very rapid; and though it is impossible to prove, we should imagine that the eleventh and twelfth centuries were those in which most plays were written, and the drama was most popular. Thus, for instance, when the Mohammedan invasion drove the drama, to which the Mussulman manners are strongly opposed, from its old post in the north-west of India, we find it sprouting up about this period in Bengal, if tradition can be relied on; for even with such strong testimony as that of Professor Wilson in favour of the "Veni Sanhára" having been written "about the eighth or ninth century," we believe its internal evidence, with its strong Pauránic character, is sufficient to assign it a later date by two or three centuries.

There seems, however, little doubt that, with two or three exceptions which are imitations of Kálidása or Bhavabhúti, the drama in India, after the eighth or ninth century, assumed an entirely mythological character, losing that of domestic romance, and accordingly declined gradually and steadily. However this may be, we undoubtedly possess only six pieces which have a right to be called classical. These are, firstly, the two that are properly ascribed to Kálidása, the "Shakuntalá" and the "Vikramorvashí." The prelude to a third play, "Málaviká and Agnimitra," asserts that it was written by Kálidása; and Professor Weber, who has just published a translation of it, supports the common Indian opinion that the great Kálidása is here meant. After carefully examining his arguments, we cannot see that he proves more than the possibility of this being the case, while the points of resemblance which he brings forward between it and the other two plays of the Hindú Shakspeare, do no more than render it probable that these productions were careful imitations; for that it was the fashion to imitate Kálidása we have seen in the "Ratnávalí." On the other hand, there is, as Wilson says, a great difference of manners, an absence of the simplicity which characterizes the plots and treatment of the great Kálidása, and

of his love of nature. At the same time the ideas and feelings are so far inferior to those of the "Shakuntalá" and "Vikramorvashí," that if it be really Kálidása's production, he had much less of the poet's nature than we have been wont to ascribe to him.

The next effort of the classical period is the truly wonderful "Mrichchhakatí." If the beauty of its poetry, and the purity of its romance, entitle the "Shakuntalá" to the first place among the poetic dramas of India, the effectiveness of its situations, the high morality of its sentiments, and its wonderful portraiture of character, claim for the "Mrichchhakatí" the crown of dramatic art.

We have already stated that different opinions exist as to the date of this play. In the prelude, its authorship is ascribed to a King Shúdraka; and though, of course, the monarch was not its author, there can be little doubt that it was written by one of his *protégés*, soon after his death, which it describes. This sovereign is placed by Wilson—and Weber, in his "Notes on Indian Literature," agrees with him — towards the end of the second century *after* Christ; but there appear to be some Orientalists, among whom is Mr. Monier Williams, who follow Colonel Wilford, in considering him to have preceded Vikramáditya by at least a century, and place him in the second century *before* Christ.

The date of the king, however, is not of such great importance. It is quite possible, and there are instances to support it, that an author should attribute his work to a celebrated personage who lived many centuries before him. In the case of the Vyása, this is very common. But the internal evidence of the play itself appears to be a much stronger argument for its having been composed much after Kálidása's time. Everything about it attests a later age, a more matured civilization, the degenerate life of cities, where the vigour and honesty of the people had been swamped in luxury and city vices. Where do we find the manliness of Kálidása's heroes? where the coy simplicity of his maidens? Here, at least, in an Indian point of view, all the characters are of a lower standard. Instead of a monarch whose glory resounds from the Dekhan to the Himálaya, from one sea to another across the Peninsula, it is a Bráhman, whose virtue is all his fortune. This alone bespeaks an age when the renown of warlike deeds was less esteemed than the quiet virtues of truthfulness and honesty. Again, the Víta is here more than a parasite; he is become a flatterer and pander. Even the Vidúshaka is not the rough hungry glutton, but an accomplished *gourmet*, who regrets his perfumes and choice wines, while the repentant thief savours strongly of the impossible fictions of the

Bhoja-Prabandha. But perhaps the strongest proof of its date is the relative position of the people and the royal family. There is a republican and even revolutionary spirit throughout it, from which Kálidása's age would have shrunk in horror. Even in the opening itself, the virtues ascribed to Shúdraka are not those of a manly age. It is not his valour and strength which the author exalts, but his comely appearance and acquaintance with the elegant arts.

On the other hand, as Wilson points out, the public acknowledgment of the Buddha sect is clear evidence that the play cannot have been written many centuries later than our era. "We know," he says, "from the Christian writers of the second century, that in their days the worship of Butta or Buddha was very prevalent in India. We have every reason to believe that, shortly after that time, the religion began to decline." When, therefore, we find a great prince of the name of Shúdraka reigning in the year 192 A.D., we have no hesitation in concluding that the play was written about the end of the second century, and the picture of Hindú manners which it presents becomes doubly interesting, as assignable to an ascertained period.

The plot of the piece is too full of various incidents to admit of our giving more than a very slight outline of it. Chárudatta was a virtuous Bráhman, and former minister of the late king. His charity and generosity, running, as most public virtues in India do, into extravagance, had left him almost a pauper, but still beloved and held in high repute by the people. He cherishes a secret attachment to Vasantasená, a courtezan of great celebrity and prodigious ill-gotten wealth, who, too, is privately in love with the Bráhman. One evening, the lovely *Hetæra* is pursued by the reprobate brother-in-law of the king, a bullying, conceited fop, called Samsthánaka, and his attendant parasite. In her attempt to escape from his coarse overtures, she takes refuge in the house of Chárudatta, and is horrified at his poverty, which she now learns for the first time. She is anxious to assist him in some delicate manner, and leaves with him a casket of jewels, under pretext that she is afraid of being robbed of them on her way home. The jewels are stolen from his house by a man who happens to be in love with Vasantasená's maid-servant, to whom he takes them the next day as a present. The maid of course recognises them, and informs the courtezan, who nobly forgives the robber, and further arranges his marriage with her Abigail. Meanwhile, the profligate prince having an intrigue on hand, orders his carriage to come round and wait for him in his garden. But the coachman leaves it for a moment near Vasantasená's door. The lady comes downstairs, intending to get into her own carriage, which she had

ordered, in order to go and visit her beloved Bráhman; and by mistake gets into that of the prince, and is driven to his garden. The prince is of course delighted at the rencontre, and again proffers his vile suit; but when it is obstinately refused, he gives vent to his rage and strangles the lady, leaving her for dead in the garden. In the course of the underplot, Chárudatta comes by, and being found by the police in the neighbourhood of the corpse, is hurried off to justice as the murderer. Samsthánaka is of course delighted to get rid of his rival, and in his capacity of chief magistrate condemns him to death; but his coachman, the only witness of the murder, denounces the prince. Chárudatta is nevertheless being led to execution, when the heroine, who had recovered the strangulation and revived, rushes in, and the case is thus cleared up, the prince exposed, and the lovers united.

We give a couple of specimens of this play. The first is a lament *à la* Timon, translated by Wilson, *Hindú Theatre*, vol. i., p. 30:—

"Alas! it does embitter poverty,
That then our friends grow deaf to our desires,
And lend a keener anguish to our sorrows.
The poor man's truth is scorned; the tender light
Of each mild virtue languishes; suspicion
Stamps him the perpetrator of each crime
That others are the authors of. No man seeks
To form acquaintance with him, nor exchange
Familiar greeting or respectful courtesy.
If e'er he find a place in rich men's dwellings
At solemn festivals, the wealthier guests
Survey him with disdainful wonder—and
Whene'er, by chance, he meets upon the road
With state and wealth, he sneaks into a corner,
Ashamed of his scant covering,—till they pass,
Rejoicing to be overlooked. Believe me—
He who incurs the guilt of poverty,
Adds a sixth sin to those we term most heinous."

The author has, moreover, a great aptitude for simile, as in the following:—

"The stars are all extinct, as fades the memory
Of kindness in a bad man's heart; the heavens
Are shorn of all their radiance, as the wife
Her glory loses in her husband's absence.
* * * * Now the cloud
Ascends,—now stoops,—now roars aloud in thunder,—
Now sheds its streams,—now frowns with deeper gloom,
Full of fantastic change, like one new-raised
By fortune's fickle favours."—*Ib.* p. 110.

The misogynist may delight himself with the following:—

"Ah, what a fool is man, to place his trust
In woman or in fortune, slippery both,
As serpent-fiends, and still 'tis woman's trick
To spurn the fond, the faithful heart that loves her.
Oh! love her never, youth, if ye be wise,
And heed the warning that the sages give,
Who tell you woman merits not least credence.
For she can weep or smile at will, can cheat
Man of his confidence, but wary, trusts not
In man herself.—Oh, then let virtuous youth
Beware the wanton's charms, that baleful blow,
Like flowers on charnel ground; the ocean waves
Are less unsteady, and the dying glow
Of eve less fleeting than a woman's fondness.
Wealth is her aim, as soon as man is drained
Of all his goods, like a squeezed colour-bag
She casts him off. Brief as the lightning's flash
Is woman's love. Nay, she can look devotion
To one man whilst another rules her heart,
And even whilst she holds in fond embrace
One lover, for his rival breathes her sighs."

Wilson, *Hindú Theatre*, vol. i. p. 84.

The French adaptation of this play has been cleverly managed by MM. Méry and Gérard de Nerval. All the underplot of the rebellion has been wisely left out, and the characters well brought forward. We are not surprised that it was so well received by the same audience which two years ago welcomed enthusiastically a similar adaptation of the "Vicar of Wakefield."

The other three plays of the classical age are all attributed to Bhavabhúti, and internal evidence, and the fact of each of them having been performed at the same festival, sufficiently ratify this attribution. Two of them are mythological, founded on the well-known story of "Ráma Chandra; or, Dasharatha Ráma," the King of Ayodhyá (Oude), whose famous war with the Rákshasas for the recovery of his wife Shítá, forms the allegorical plot of the "Rámáyana" of Válmíki, which may safely be called the "Iliad of India." The first of these plays is called "Mahávíra Charitra;" or, the Adventures of the great hero Ráma. This piece contains the peculiarity of a complete outline of the story in the prelude,—a circumstance which is the more noticeable as the story was too well known in India to need any such introduction. Conjectures are at all times unsatisfactory, and perhaps this peculiarity might be naturally explained; but it is equally allowable to presume that the piece was presented to an audience less acquainted with the great epics than the rest of the Hindú people—in fact, that it was written at a time when the

Mussulmans were established in India. If there is any probability in this suggestion, it might throw a new light on the real date of Bhavabhúti. The "Uttara Ráma Charitra" is the sequel to this piece. The third play of Bhavabhúti is the "Málatí and Mádhava,"—a truly beautiful composition, and one which makes us fully concur in Wilson's criticism:—

"There is more passion in the thoughts of Bhavabhúti than in those of Kálidása, but less fancy. There are few of the elegant similitudes in which the latter is so rich, and there is more that is commonplace, and much that is strained and obscure. In none of his dramas does Bhavabhúti make any attempt at wit, and we have no character in either of his three dramas approaching the 'Vidúshaka' of either of the two preceding pieces (the 'Mrichchhakatí' and 'Vikramorvashí'). On the other hand, he expatiates more largely in the description of picturesque scenery, and in the representation of human emotions, and is, perhaps, entitled to even a higher place than his rival, as a poet."

Yes—as a poet perhaps, but scarcely as a dramatist. There is an entire absence of that variety which makes Kálidása so charming; nor could Bhavabhúti ever rise to the pathos and imagination of the fourth act of the "Vikramorvashí."

These plays have come down to us complete, and most of them have been translated into the different dialects of India. The "Shakuntalá," in particular, is a great favourite still, and is acted to this day. But how little do we know of their authors; far less than we do of Homer or Ulfilas. Of King Shúdraka we simply hear that he was the first of the Andhra dynasty, and reigned in A.D. 192; that "he beheld his son seated on his throne, and, after performing the exalted Ashwamedha sacrifice, having attained the age of a hundred years and ten days," voluntarily ascended a funeral pile, and so put an end to his longevity. In the opening to the "Mrichchhakatí," a description of his talents and qualities is given, which we may take at *quantum valeat* for an epitaph.

Of Bhavabhúti, or Shrikantha, we know "that he was the son of a native of the South of India, a Bráhman of Berar, and a member of the tribe of Bráhmans who pretend to trace their descent from the sage Kashyapa." He came to the famous city of Ujjáviní, and there probably his plays were performed. The *Bhoja-Prabandha* asserts, with its usual arrogance, that he lived under Bhoja at Dhárá; but the history of Kashmír, a far preferable authority, displays him as patronized by Yashovarmá, King of Kanouj, who flourished about A.D. 720. There are other reasons for believing that he lived in the eighth century; but this is all we know of him.

Kálidása, however, is too celebrated in India to have been passed over so indifferently, and accordingly tradition is rich in various poets of this name. The most detailed account that we

possess of him is in the *Bhoja-Prabandha.** This work professes to be an account of the celebrated Bhoja, Emperor of Malwa, who is believed to have reigned at Dhárá towards the end of the tenth century, and of the literary men whom he patronized. It is the production of a Bráhman named Ballala, and there is internal evidence to conclude that it was not written before the thirteenth century. In the first place, it quotes largely from the "Hitopadesha," and in the second, M. Pavie has remarked that the name Allála, mentioned in it, is probably the same as Allahábád, the ancient Prayága, which only changed its name at the end of the twelfth century.

We believe that the suspicions attached by Wilson and others to this work are correct. It is far too highly coloured, far too romantic and Arabian-Night-ish to be a reliable authority in matters historical, though very pleasant reading, and a very good picture of Hindú manners of its own age. The poet therefore, of whom it gives such a full and amusing account, may have been a Kálidása at the court of Bhoja, and may have been the author of the "Nalodaya," as Wilson suggests, but was certainly not our dramatist. He is represented as a man of licentious and profligate habits, living openly with a mistress, and indulging freely in the bounty of the vineyard and his sovereign. He is the bosom friend of Bhoja, but at constant variance with all the *savans* of his court, who appear to have been jealous of his favour. The Emperor, however, at last horrified by the poet's excesses, disgraces and then recals him. His many enemies spread a report that he is carrying on an intrigue with the Empress. A powerful scene ensues, and the calumniated queen offers to put her virtue to the test of a fiery ordeal. The poet, however, is again banished, and the Emperor, who loves him better than a woman, pines in his absence, till at last a favourable opportunity occurs, and Kálidása is led back in triumph to Dhárá.

We will not deny that it is possible for the author of the "Shakuntalá" to have led a dissolute life. Numerous instances attest that a dissolute life is by no means incompatible with the pure conceptions of genius. But the Kálidása of Ballala evidently belongs to a very different age from that of the great dramatist, and the simple loves of Urvashí or Shakuntalá could never have found favour at the licentious court of Bhoja. What we do know of the dramatist is simply his date, and even this is disputed. He was one of the learned men who circled round the

* M. Théodore Pavie has lately published the text of this book, with an account of the work, and translations of the most interesting parts, in the "Journal Asiatique," vol. iii. No. 2, vol. iv. No. 15, and vol. v. No. 17. An edition, with notes and a vocabulary by Dr. Aufrecht, is now in preparation at Mr. Austin's press.

throne of Vikamáditya the Great. Of his life we know nothing, and of his mind we can only guess the beauty from that of his productions. He was an ardent lover of nature, and takes every opportunity to describe its beauties in luxurious imagery. Witness Pururavas' description of an Indian noon:—

"'Tis past mid-day, exhausted by the heat,
The peacock plunges in the scanty pool
That feeds the tall tree's root. The drowsy bee
Sleeps in the hollow chamber of the lotus,
Darkened with closing petals. On the brink
Of the now tepid lake the wild duck lurks
Amongst the sedgy shade; and even here
The parrot from his wiry bower complains
And calls for water to allay his thirst."

Hindú Theatre, vol. i. p. 45.

Or these:—

"Unceasing are the charms of halcyon days,
When the cool bath exhilarates the frame,
When sylvan glades are laden with the scent
Of fragrant Pátalas, when soothing sleep
Creeps softly on beneath the deepening shade
And when, at last, the dulcet calm of eve
Entrancing steals on every yielding sense."

Sakoontalá, p. 4.

"All undisturbed the buffaloes shall sport
In yonder pool, and with their ponderous horns
Scatter its tranquil waters; while the deer,
Couched here and there in groups beneath the shade
Of spreading branches, ruminate in peace.
And all securely shall the herd of boars
Feed on the marshy sedge."—*Ib.* p. 42.

When he speaks of the river Máliní:—

"Its tranquil course by banks of sand impeded;
Upon the brink a pair of swans; beyond
The hills adjacent to Himálaya,
Studded with deer; and near the spreading shade
Of some large tree, where 'mid the branches hang
The hermit's vests of bark, a tender doe
Rubbing its downy forehead on the horn
Of a black antelope."—*Ib.* p. 176.

His descriptions of female beauty are no less observant:—

"Sunk is her velvet cheek; her wasted bosom
Loses its fulness; e'en her slender waist
Grows more attenuate; her face is wan—
Her shoulders droop, as when the vernal blasts
Sear the young blossoms of the Mádhaví,
Blighting their bloom; so mournful is the change—

Yet in its sadness fascinating still—
Inflicted by the mighty Lord of love
On the fair figure of the hermit's daughter."

Sakoontalá, p. 67.

And full of poetical prettiness,—

"Fond maids, the chosen of their hearts to please,
Entwine their ears with sweet Sirísha flowers,
Whose fragrant lips attract the kiss of bees,
That softly murmur through the summer hours."

Sakoontalá, p. 4.

His passion wants strength, however, and is often perplexingly Indian. Thus we have the throbbing of an arm to express a consciousness of the approach of the beloved, the bristling of the hair all over the body to betoken intense desire, and so forth; while stalwart heroes, here as well as throughout the Hindú drama, swoon right and left on every possible occasion more readily than a tender London beauty in a crowded ball-room.

Kálidása has far less distinction of character than the later writers, and there is a certain sameness about those of both pieces. The hero is a mighty warrior, shy as a lamb in the presence of the heroine, who is a timid, modest, but devoted girl. The subordinate personages are such as we have already described them. The only striking character in either of his plays is the queen, whose haughty jealousy, striving to conceal itself, is well brought out.

The plots of both pieces may be given in a few words. In the older of the two, the "Vikramorvashí," King Pururavas is a demigod, who from time to time pays a visit to Indra, the King of Heaven. Returning one day in his chariot from one of these aërial excursions, he is surrounded by weeping air-nymphs, imploring him to rescue their companion Urvashí, with whom some demons of the Rákshasa class have just eloped. He does so, and the hero and the nymph at once fall in love. The heroine returns to heaven and the king to earth. Urvashí, however, cannot restrain herself from going to see the handsome monarch; but such is her timidity, that these visits are carried on with as much diffidence on each side as between the writer of a begging-letter and a would-be-benevolent householder. The jealous queen surprises them in one of these clandestine interviews, and of course a "scene" ensues, but the lady is at last appeased—and this is chivalrously put—by this semi-divine, all-powerful, but love-sick monarch falling on his knees before her—a woman, and what is more, his wife! Meanwhile, the nymph returns to the courts of the gods. Indra gives a grand entertainment, and regales his guests with a theatrical representation of "Lakshmí's choice." Urvashí, being the most beautiful of the heavenly nymphs, has to play the part of Lakshmí, but in

her love-absence, when she ought to say, "My heart is fixed on *Purushottama*," she lets slip the name *Pururavas*. The heavenly dramatist, Bharata, naturally loses his temper; but the king of the gods is lenient with her, and her punishment for this error is, to dwell on earth until she has borne a child to Pururavas. The king and the nymph are thus wedded, but in a jealous fit she leaves him, and is turned into a creeper in the forest of Kártikeya. Here the fourth act, which is perhaps the finest piece of sustained passion in the Hindú drama, commences. The king is found wandering in the forest, mad with separation from his spouse:—

> "The monarch of the woods,
> With slow desponding gait,
> Wanders through vales and floods,
> And rocks, and forest bowers,
> Gemmed with new-springing flowers;
> And mourns heart-broken for his absent mate."
> *Vikram.*, *Wilson*, *loc. cit.*

He addresses himself to every rock and tree, in a full strain of lovely imagery and love-sick melancholy, and wildly implores the birds and beasts of the forest to tell him of his bride. From time to time he swoons in his despair, and then rises again with a fresh impulse to seek her. At last he finds the creeper, and changes it with a magic stone to the form of his Urvashí. The piece concludes in the usual manner.

There is very little incident in this play; and its want of theatrical situations gives it rather the character of a dramatic poem than an acting drama; but certainly the fourth act, with its wild *crescendo* despair, is worthy of a great master.

The plot of the "Shakuntalá" is more dramatical, though equally simple. Dushyanta, a king of the Puru race, was a lover of wild sports. Hunting one day in a jungle far from his capital, he is about to shoot a young fawn, when a hermit steps in and thus addresses him:—

> "Now Heaven forbid this barbèd shaft descend
> Upon the fragile body of a fawn,
> Like fire upon a heap of tender flowers!
> Can thy steel bolts no meeter quarry find
> Than the warm life-blood of a harmless deer?"—(*Sak.*, p. 9.)

From this he learns that he has encroached on the hermitage of the great Saint Kanwa, and determines to visit the celebrated penitent. The saint is conveniently from home, and as the king and his jester, having left their retinue behind, approach his dwelling, they come upon a lovely band of maidens, who are piously watering the roots of the forest-trees. A pretty scene

ensues, which the king and his companions watch from a hiding-place. Shakuntalá, the loveliest of the merry troop, is attacked by a bee:—

"Where'er the bee his eager onset plies,
Now here, now there, she darts her kindling eyes,
What love hath yet to teach, fear teaches now,—
The furtive glances and the frowning brow.
Ah! happy bee, how boldly dost thou try
To steal the lustre from her sparkling eye!
And in thy circling movements hover near,
To murmur tender secrets in her ear;
Or, as she coyly waves her hand, to sip
Voluptuous nectar from her lower lip!"—(*Sak.*)

This gives an opportunity for the king to come forward and proffer his assistance. The acquaintance is thus formed, and a pleasant flirtation ensues, ending in an honourable offer, which the maiden shyly accepts, making one single condition, that, if she bears him a son, he may be heir to the throne. The sage Kanwa returns at the right moment, and the "happy couple" proceed to the "hymeneal altar," without the assistance of three hon. and rev. clergymen. Meanwhile Dushyanta's queen—for he had already one wife—grows anxious for his return. His subjects, too, cannot do without him, and a messenger summons the truant monarch back to his capital. Many reasons prevent his taking his new bride with him, and they part. Years pass, and their offspring becomes a stout and valiant boy. It is then that Shakuntalá bethinks her of her husband's promise, and bidding farewell to the hermitage, sets out with the boy to the capital.

The hymn of Kanwa on this occasion is in itself beautiful; but Mr. Williams has lent it a still sweeter grace in his translation:—

"Holy flames that gleam around
Every altar's hallowed ground;
Holy flames, whose frequent food
Is the consecrated wood,
And for whose encircling bed
Sacred Kusa-grass is spread;
Holy flames that waft to Heaven
Sweet oblations daily given,
Mortal guilt to purge away,
Hear! oh, hear me! while I pray,
Purify my child this day!"

She reaches the court. But he has forgotten Shakuntalá and his love in new excitements, and years have obliterated even her features from his heart. He spurns her. When she reminds him of those happy days, he upbraids her with a conspiracy. Shakuntalá is thunderstruck, and every hope seems gone, till a

voice from heaven proclaims that her story is true. Her portrait is shown to the king. His memory returns, and he publicly acknowledges her as his wife, and his son, Bharata, as his heir.

The piece is full of varied incident and delicate situations; and, among others, the elephant breaking in upon the hermitage and scattering everything before him, and the scene of the boy and the lion, are the sketches of an able hand.

The "Shakuntalá" is not only the best known piece in the Hindú drama, but it is the one to which the chief attention of Oriental scholars in every country has been turned. The "Vikramorvashí" has received the next share of interest, and the "Mrichchhakatí" the least. It is about seventy years since the discovery was made that the Hindús had any drama at all. This was due to the diligence and perseverance of Sir W. Jones, who followed it up by obtaining a mutilated Bengali version of this piece, which he gave to Europe in a prose translation. He was not the man to let any beauty lose in the translating, and accordingly his free and fine prose version roused the admiration of all reading Europe, and drew from Göthe his rapturous praise. In 1794 it was translated by Forster, and since then has continually occupied those Indianists in Germany who are capable of rising from plodding antiquarianism to the enjoyment of the higher charms of literature. The last German version was that of Lobedanz, in 1854.

Twenty years later than Sir W. Jones, Antoine Léonard de Chézy found a MS. of the "Shakuntalá" in the Bibliothèque Royale, and studied Sanskrit for the sole purpose of enjoying its beauties, of which he had heard, in their original form. He gave the French an elegant free rendering of the piece, and his almost extravagant devotion to it formed the counterpart of Göthe's enthusiastic admiration.

"Good wine needs no bush," and certainly Mr. Williams' translation seems in every respect to rise above our praise. If any excuse were wanting for giving the public an opportunity of reading the masterpiece of the Indian drama, in a form that is worthy of it—the fine thoughts of a great Indian poet rendered by the beautiful expression of an English poet, for Mr. Williams has proved himself to be no stranger on Parnassus—it would be found in the readableness and enjoyableness of the translation itself; the book is its own excuse. Those among us who care —and what man of education does not?—to know the beauties that various ages and lands of the world have produced, will rejoice to have Sir W. Jones's translation superseded.

Mr. Williams has rightly understood those modern rules of translation from one tongue to another, which determine how

much of the original is capable of being rendered into metre—how much absolutely demands the easier medium of prose. This in itself requires the observation of a mind by no means commonplace. We will not now enter into the *vexata quæstio* of whether the philosophical poetry (or rather, perhaps, *poetical philosophy*), the metrical Puránas and other half-scientific works of India, are better rendered into English by prose or metre. We believe that no general rule—such as that metre should be rendered by metre, prose by prose—will hold good in the case of Indian literature. We confess that the subject seems to us of more importance than the form in deciding this question. But the doubt arises in a lesser degree with respect to the drama. Here prose and metre are mingled, as the Hindú author rightly perceived the error of making people talk metre about the merest trifles on the stage any more than in common life, and knew, on the other hand, that rhythm was the best—and on the stage, perhaps, the only efficient—vehicle for the finer outbursts of passion and poetical feeling. His object was to combine the natural and the effective, and so far he has succeeded. It then became a question whether, on the one hand, prose or verse could best develop this art of the original in the translation,—on the other, whether it were *possible* to follow the system of the Hindú author. The "Shakuntalá" has been translated into plain prose throughout by Sir W. Jones, into metre throughout by Lobedanz, into mingled prose and verse by Ernst Meier in German, and by Mr. Williams in English, and we do not hesitate to give our verdict in favour of the last. He has proved the possibility of what is, in truth, by no means an easy task—finding a conversational prose for the merely conversational portions of the original, and an easy metre—the change to which from prose does not jar upon the ear of the reader—for its metrical portions. Moreover, he has felt the suggestiveness of some of the shorter musical couplets for English rhyme, and he has introduced it with much tact and delicacy. As a general rule, it is easy to translate Sanskrit. The *shloka*, or couplet, is always complete in itself, *teres atque rotundus*. The prose is straightforward and simple. But when we come to handle the varied metres of the drama, and to find a line of Sanskrit succeeded by one of Prákrit, it is by no means a light task to do justice at the same time to the meaning and the music of the Hindú poet. Mr. Williams has not only succeeded in doing so, but he is also the first translator who has done so, and we congratulate him on his success.

We cannot conclude the expression of our admiration of this recent *chef-d'œuvre* of Oriental translation, without a few words on the external garb in which it appears. Mr. Austin, of Hertford, is well known already as the Mæcenas of Indianists. The liberality

of the publisher has given an impulse to the ambition of the writer. In the present instance he has spared neither expense nor trouble in finding a robe of state suited to Shakuntalá's beauty. He has collected from the illuminated MSS. of the British Museum and East India House a large number of splendid chromatic borders, head-pieces, tail-pieces, and arabesques of every description, and added all the luxuries that fine wood-cuts, choice paper, and clear type can supply. If Mr. Williams has given the Orientalist a *bonne-bouche*, Mr. Austin, resolved that the general reading public should not be denied a share of this rich mine of Eastern gems, has given us all a masterpiece of illustration and typography, which is a real contribution no less to the library than to the boudoir.

Art. III.—Gunpowder, and its Effect on Civilization.

1. *Etude sur l'Artillerie.* Par Louis Napoleon Buonaparte.
2. *Treatise on the Enfield-Pritchet Rifle.* Chapman and Hall.
3. *Paixhan's Constitution Militaire de la France.*
4. *Recueil des Monuments inédits du Tiers-Etats.* Augustin Tierry.
5. *Expériences de Bapaume.*
6. *Recherches sur les Bouches à feu en fonte de fer.* Par le Général Tirlet.
7. *Application du Fer aux Constructions de l'Artillerie.* Par A. Thierry.

DURING the last five years, the press of this country has taken a prominent part in urging the Government to encourage improvements in firearms, and at the same time has been demanding that the estimates of the War Department should be considerably reduced. As these two points are totally incompatible, and as this incompatibility appears not to be generally understood, we shall endeavour in the following pages to make the subject a little clearer than has as yet been done by reporters who describe experiments at Woolwich which they do not understand, or by inventors who, taken up with their own idea, fancy the salvation of the whole world depends solely on its adoption. Not that we should condemn this apparent conceit in

men who devote their lives to investigating any one of the profound theories of gunnery, and who are themselves astonished at the results they have obtained. The subject is indeed one of vast importance to mankind—one which it would be better for them to study more than they do, as each improvement in fire-arms is a gigantic stride in the march of civilization. Yet the public has a sort of vague notion that a Friar Bacon invented gunpowder, that the use of cannon followed as a natural consequence; that a Vauban invented the modern style of fortification, and a Minié the present rifle musket; and that therefore all that is necessary is for Government to make gunpowder, build fortresses, and give the army Miniés. But our forefathers, who obtained for us the freedom we now enjoy, did not think thus lightly of war's alarms, and its necessities. Good old Roger Ascham could teach Greek poetry to gentle ladies, but he could likewise write an excellent treatise on the bow,—for in those days it was not sufficient to know how to draw a bow, but necessary to be able to make one. We do not ask so much of the present generation, but we think that they should know something concerning our weapons of offence and defence, and why they are now and then called upon to pay more for war estimates than times of peace would otherwise warrant.

Gunpowder is no simple substance. From the time when Callinicus, the priest of Heliopolis, sold his secret of making the rocket at Constantinople, until Berthold Swartz discovered the effect of the granulation of saltpetre powder, how many centuries passed, and how many brains conned the matter over! The subject was to the dark ages what electricity is to ours. A grand secret of nature had been discovered; where it was to end they did not know. And they went on investigating and wondering. "Thou shouldst above all things," said Constantine Porphyrogenatus to his son, "direct thy cares and thy attention to the liquid fire which is thrown by means of tubes; and if the secret is dared to be asked of thee, as it has often been of me, then thou must refuse and reject this prayer, answering, that this fire had been invented by an angel, and shown to the great and holy Christian Emperor Constantine." And for centuries the rocket was thrown from the dragon-headed prows of the Greek vessels, without, however, doing much beyond frightening the enemy. "The Greek general," says Nestor, the Russian chronicler, "darted the fire upon the Russian ships, a spectacle as frightful as it was extraordinary. The Russians at the sight of this magic fire threw themselves into the sea, and but few escaped." And until the thirteenth century, saltpetre powder remained a state secret at Constantinople. But it is marvellous that during that time it underwent no kind of improvement. It appears as if religion had

not yet sufficiently regulated men's passions to permit of the introduction of gunpowder as a simple means of warfare, and at the same time to prevent them from turning it into a mere ruthless agent of human destruction: a disposition sufficiently exemplified even in later ages by our Gunpowder Plot. But in the beginning of the thirteenth century, we find the Saracens in possession of this new engine of warfare; though how they became acquainted with it we do not know, most probably as a bribe to the Sultan of Iconium from Alexis II., when in 1210 A.D. he hospitably received that Emperor, and assisted him against the Greek princes of Nicæa. The Saracens appear to have used it first at the siege of Damietta; for although the earlier chroniclers of the Crusades call any inflammatory matter Greek fire, the accounts of Olivier l'Ecolâtre, and of Joinville, alone give any statement resembling its effects.

Europe, however, in spite of these Syrian wars, would have remained for a long time ignorant of the use of this formidable weapon, had it depended on the mail-clad knights, who, dividing their time and thoughts between fighting, feasting, and superstition, sincerely thought that an inquiry into chemical knowledge could only lead to a close acquaintance with the powers below. Happily for this world, there has ever been a class of men who have looked upon knowledge as being above any reward which princes can give. These form a free masonic brotherhood, irrespective of country or creed; and whilst they endeavour to investigate the wonderful laws by which this world and its elements are guided, remember that life is too short to add more than a particle to human science, and that their labours can give a result only by taking advantage of that of those who have gone before them. Amongst these was Roger Bacon. Finding that learning could be obtained only by studying the Greek philosophers, and that Arabic was the only language in which they could be studied, he repaired to Paris, then the first school in Christendom, and in 1267 dedicated a work on the chemical sciences to Pope Clement IV., wherein we find that the Greek fire in the form of squibs was used as a plaything in some parts of Europe. This was one of the most diabolical investigations of Bacon, and he was before long condemned by the ecclesiastical tribunal. He says, however, nothing of its use in connexion with the *canna*, or tube; but experiments had been going on for some time amongst the Arabian alchemists in Spain; and Ferrarius, a Spanish monk and contemporary of Bacon, writing to one Anselm at Oxford, says:—"Notandum est quod tunica ad volandum longa debet esse et gracilis et prædicte pulvere optime conculcate repleta; tunica faciens tonitrum debet esse brevis et grossa, et prædicto pulvere semiplena et ab utraque extremitate filo fortissimo bene

clausa." Nevertheless, it was still some years before the saltpetre powder was used as a projectile force in warfare. Egidio Colonna, tutor to Philip le Bel, Marino Sanuto, and Guido da Vejevano, military authorities of the earlier part of the fourteenth century, make no mention of it; and although after the year 1326 the knighthood of Christendom was aroused from its usual commonplace ideas of warfare by rumour of a powerful and mysterious engine which could kill man and horse at a vast distance and with great noise, and notwithstanding that the engineers of the period, chiefly Italians who roved from one service to another, were full of its wonders, yet its progress was wonderfully slow. Surprise has often been expressed that we possess so few documents respecting its introduction in warfare. The fact is, that we have pretty nearly every document connected therewith. Iron and brass were very dear and badly worked. Gunpowder was little better, even if so good, as that now made for the African trade. Dr. Arderne, writing temp. Edw. III., says,—"Prenez j. li. de soufre vif, de charbonnes de saul ij. li., de salpetre vj. li., si les fetez bien et sotelment moudre sur une piere de marbre, puis bultez le parmi un sotille couerchiuf. Cette poudre vault a gettere pelottes de fer, ou de plom, ou d'areyne, en un instrument que l'on appelle gonne." This recipe is perhaps as clear a statement of the real fact as we could desire; and if Villani was right in saying that that monarch had three guns at Cressi, it is just as possible Barbour was equally so when he wrote of the same king invading Scotland, "Bot gynnys for crakys had he nane."

Weak, however, as the powder was, and ineffectual as the shot may have been, a very extraordinary feeling began to pervade society, viz., that a weapon had been discovered which would place the villein and the lord on a term of equality; and to understand this feeling, which now comes so natural to us, we must remember what the state of Europe was then. Not only every town was fortified, but, on the Continent, often every house in the town was so too. The church-belfry itself, which had once been erected to call the faithful to divine service, had become a fortress; and the priest could wield the sword and battle-axe as well as the layman. The citizen had no protection beyond his own walls, and the serf, unarmed, could offer no defence against his lord clad in iron. Indeed, thirteen hundred years of Christianity found the remains of the Roman Empire in a state of anarchy unknown to the Cæsars. But gunnery gave the citizens a power hitherto unknown. Saltpetre and sulphur were to be got only from merchants, and at great expense. Iron and brass were also worth their weight in gold, and could only be fashioned into guns by men skilled in the working of wrought iron. Rapidly, therefore, did the mechanics of Flanders grow

into importance, when from every smithy resounded the hammer which welded the hand-gun. Already, in 1382, the men of Ghent encountered the Earl of Flanders with 200 *Ribaudequins*, small carts laden each with two or more guns; and, in 1386, Charles VI. of France thanked the inhabitants of Tournay for the assistance they had afforded him in the campaign of Rosebecque with guns and gunnery. But both the men of Ghent and of Tournay were indebted to the scholar for their newly-acquired importance. About the year 1354, Berthold Swartz, experimenting on gunpowder, found out by an accidental explosion the advantage of granulating it,—a discovery which eventually caused him to be blown-up by Winceslaus, as a punishment for sorcery. For in the same manner as charcoal was the "luru vopo vir can utriet" of Bacon, the secret, of which he himself was not aware of the reason, upon which that of saltpetre powder rested, so was granulation that upon which gunpowder depended. The effects of this discovery of Swartz were prodigious; for though the improvement in portable firearms at first was slight, that in large artillery soon produced consternation amongst the lesser barons of Europe. Their fortresses could no longer resist the power of the king, as a castle of Abbeville had once done that of Louis VI., and Arundel that of Henry I. "Dragon Head," or "the King's Daughter," was rolled up under cover of the palisade to the very doors of the castle, which it speedily blew in. Towns were very little better off; for if they protected their gateways by an advanced work, breaching was a very different thing when performed by powder from that which it had been when it depended on the pickaxe. At first these innovations in warfare were looked upon by the old school as decidedly wrong; but when it was found that not only did sundry leading monarchs take pride in their artillery, but that, consequently, it became a necessary weapon of offence and defence, the profession of man-at-arms began to be at a discount, and their ranks could only be filled by mercenaries. This was a remarkable change in the European system of warfare, for landholders and citizens were still bound to render military service to their immediate lords; and this service, from the earliest periods of the feudal system, had been given *con amore*, as exchange for hard blows and plunder. But when, instead of the *mêlée*, or assault, men of noble birth and renown fell by shot fired by an unknown hand, there was nothing either noble or desirable in such encounters. This change was not felt so strongly in England as on the Continent; for our nobility had full scope for slaughter in the wars of the Roses, although Edward IV. acknowledged the advantage of the Flemish harquebusiers. But in France the change was complete. Charles VII. had found, by bitter experience, that the days of a

Bras-de-fer or Front-de-bœuf had gone by, and that the protection of his kingdom depended on the science of his day being applied in full force. Instead of a crowd of heavily-accoutred barons and a tumultuous array of footmen, he organized his "Compagnies d'Ordonnance," and, for the first time since the introduction of chivalry, France recognised infantry as worthy of nobility by making it "franc de taille."

There are many in this country who look with horror on this first introduction of a standing army. All we can say is, that at its formation Europe presented a terrible spectacle: England, devastated by its wars of the Roses; France, by those of the Armagnacs and Burgundians: "as to Germany," says De Comines, "there were so many fortified places, and so many people in them ready and fit for all manner of mischief, such as plundering, robbing, slaying, and encroaching on their neighbours, that there was no living in the country." "At the death of Charles VII.," says the same authority, "the amount of taxes in France was 1,200,000 francs yearly; but with this he had constantly in pay 1700 men-at-arms to preserve peace and security in the provinces, by which means there was no free-quartering or riding up and down the country, "which was great ease to the people." And ease could not be given to the people without forces which could overawe such great feudatories as Bourbonnois, Auvergne and Nemours, Dunois and St. Pol; and Louis XI., therefore, whilst his policy was ever one of peace, materially strengthened his army, by which alone he found he could keep peace; and, at his death, the firm behaviour of the Companies of Ordonnance, by supporting the Dame de Beaujeu against the Constable of France himself, prevented a protracted civil war. If any doubt should be felt by our readers respecting the advantages which mankind obtained at this period by the establishment of standing armies, we would refer them to the state of piracy then existing on the high seas, where there were no regular forces to maintain order, and which had reached such a pitch that, in the Treaty of Boulogne, 1497, it was expressly stipulated, that any vessel, sailing from either England or France, should give a surety to preserve the peace; and that even this did not prevent pirates making their excursions, as if they were masters of the Channel.

We now reach the period in the history of gunpowder when nations had to direct their energies towards counteracting its powerful effects; for monarchs, tired of overthrowing the castles of their vassals, thought their artillery might be better employed in overcoming their neighbours' frontiers. The defeat and death of Charles the Bold, who, regardless of all rules of warfare, rode over those guns he had collected at such a vast expense, and

charging the Swiss pikemen, lost in one day the results of the labour of years, allowed the lesser powers to breathe more freely. The blow, however, was to come, and the puny heir of Louis XI. was the chosen instrument. Fancying he could not put the splendid forces bequeathed to him by his father to a better purpose than wasting them by an Italian war, he sent forward some 200 siege-guns by sea to Spezzia, whilst he marched over Mont Cenis with some 100 field-pieces. The tales which spread throughout Italy respecting his artillery completely overawed its inhabitants; but its practical effects far surpassed anything that had been said of it, and he soon mastered the land. The Italians were, however, not devoid of courage. Francisco Sforza, Roberto di San Severino, Federigo di Montifeltro, Fabriccio Colonna, Trivulgio, &c., were as brave leaders as any in Europe. But to acquire large stores of military engines required means which the small principalities could not afford. The Italian soldier had, therefore, early learned to substitute craft for boldness; and before many years Europe was startled by a second innovation in warfare, arising from the introduction of gunpowder —the modern system of fortification. The first system with which we are acquainted is the simple wall with towers at intervals: a system which answered perfectly at a time when the only weapons were the sword and arrow. This appears to have prevailed up to the time of the first crusades, when the introduction of the sow and trebuchet from the East rendered it necessary to form a ditch outside the wall—an idea which does not seem to have been introduced into England much before the time of John, and later the wall itself was strengthened with machicoulis. As the power of the trebuchet increased, the walls and turrets had to be raised and thickened; and this being a great expense, the poorer gentry allowed their dungeons to fall into decay, whilst the monarch increased his power by erecting those magnificent fortresses of which Conway is so fine an example. The citizens, however, still maintained their privileges of contributing cheerfully towards the defence of their towns,—a tax they would force the wealthy monastic institutions to join in, much against their will. As gunnery became perfected, the castle, in spite of its buttresses and towers, could offer no sufficient resistance. Then huge bastilles were erected—large, square, gloomy buildings, with walls thirty feet in thickness. But to erect these was not only costly, but a matter of time; and, in the course of that time, it was discovered by monarchs that these citadels might prove as effectual in the hands of their subjects as they did in their own, and the skill of the engineer was directed towards another system.

When guns had been first introduced into siege operations, they had been run up under protection of a covering, as near as

possible to a gateway; but to counteract their effect, about the middle of the fifteenth century, earthen-works, termed ravelines, were erected outside each gateway. Subsequently, boulevards or bulwarks, large earthen mounds, were thrown up inside the walls both for the purpose of strengthening the wall, and to place guns upon them to fire over the wall. Such appears to have been the prevailing system of fortification when Charles VIII. entered Italy. But as town after town and fortress after fortress fell into his hands, the Italian engineer put his wits to work to endeavour to keep up the superiority of defence over offence, and for the next fifty years Italy swarmed with engineers, each of whom contributed his mite; and amongst them we find such men as San Gallo, Michael Angelo, Leonardo da Vinci, and San Michele.

Some have attempted to indicate who first introduced the bastion, or modern system. There was, however, in those days much more practice than theory, and we therefore can only judge of the progress of fortification by the works which the masters of that art left behind them. Few plans were at that period put into execution without several engineers of eminence having been previously consulted. Some advised one thing, and some another; and as there was scarcely a small town but varied in some form from its neighbour, and as men then lived and died in harness, the advantages of every particular suggestion were soon tested. Ferrara, however, appears to have been the chief school; for we find that Michael Angelo, when the Medici were expelled from Florence, was sent by his fellow-townsmen to that court in order to study the new system of fortification which Duke Alfonzo I. had introduced, as well as his artillery: for in those days guns were still very costly, and consequently fortifications had to be erected according to the nature of the ordnance a state possessed.

This new system of fortification consisted in defending towns by so placing artillery as to command a flanking fire, and by the erection of formidable stone and earthen works, which enabled the defenders to obtain this fire, and at the same time enabled the walls to withstand the breaching power of the enemy's batteries. These innovations in the art of war aroused the attention of most governments, Italian engineers being almost always employed, and eagerly sought after. But, owing to the very great expense of this system, a great number of cities had to allow their walls to moulder into ruins. Yet, whatever regret an antiquarian might have felt that the chains were no longer placed across the streets at nightfall, or that the mayor's mace was no longer looked upon with the same veneration, the citizens generally must have heartily rejoiced. The privileges of watch and ward had never at any time been a pleasure, for they were but

privileges arising from the insecurity of the city. On any rumour of war, the walls had to be repaired, the expense falling sometimes on those who dwelt within the ancient inclosure, while sometimes a royal edict forced those who lived beyond to join. No one dared go in or out of the city except by the gates; and then he was to be within his house by nine o'clock of the night, unless he were for watch. Not only was the citizen to provide arms for himself, but also to maintain a number of armed servants in his house, which was to be provisioned. Maritime cities were worse off, for they had to furnish shipping, arms, and sailors. But as the walls fell to decay, and the citizens roamed from town to town, obtaining fresh ideas and expanding their minds, they became impatient of the restrictions imposed on their trades or their manner of living; they wanted handsomer and larger dwellings, and the liberty they sought for was no longer that of grazing their cattle in the city ditch, but that they might enter on the road to distinction and affluence as well as the noble.

Whilst the larger powers were intent on the more expensive improvements in fortification and heavy artillery, the hand-gun was steadily replacing the bow and pike, and by the middle of the sixteenth century the musket obtained the pet name of "The Queen of weapons." The clumsy culverin, with its slow-match, had given way to the arquebuss and its pyrite wheel—the invention of a Nuremberg artificer. The Spaniards, constructing these arquebusses of a heavy calibre and using them with a rest, easily overthrew the lansquenet and man-at-arms, and spread the fame of their weapon throughout Europe. "It is my opinion, sire," wrote M. de Fourquevaux, French ambassador at Madrid, to the King of Spain, on the 3rd of Sept. 1569, when applying for assistance, "that of the 4000 men it would be good were 3000 harquebusiers, for war at present is carried on more by that than by the pike, and the Spaniard makes a better use of it than any soldier in the world." The infantry soldier was now not only worthy of being "franc de taille," but he had become of greater importance than the man-at-arms.

Beecher gives an amusing account of the effect of firearms on the aborigines of Terra del Fuego. They could not be made to understand how that, standing a long way off, they should hear a noise, and see a little smoke, and then that they should be mortally wounded. It was to them quite incomprehensible, and they therefore felt no alarm at the sight of a musket. But when once they became convinced of the danger, their terror was proportionate. This feeling was curiously exemplified in the total demoralization of all armies, from the middle of the sixteenth century till near the end of the seventeenth. The Swiss complained that it was not their nature to stand patiently under the

fire of artillery, but to march straight onwards! And Montluc's soldiers would say to him, "Let us engage, sir; it is better to die sword in hand than to be killed by artillery;"—that *stromento d'inferno*, as the Italians called it. This nervousness increased still more when they saw their ablest knights, such as a Bayard, a Guise, and a Sydney, fall by the deadly bullet. Tacticians wrote elaborate treatises on forming squares, and stars, of pike-men and arquebusiers; but human nature was too strong, and there arose that disorderly system of skirmishing, when each man looked but after his own safety, which he thought must lie in his own carbine and petronel. Field artillery, as the select portion of the army which was to support infantry, and be supported by it, became neglected, and each man loaded himself with quick-match and powder-flasks—a system of warfare well described by Warburton, in his "History of Prince Rupert," as "limited to the wasting of gunpowder, and in making a noise." It required a Gustavus Adolphus and a Cromwell to overcome this lax state of discipline, and once more to teach the soldier how to face death in the ranks; but then the one with his Lutheran Swedes, the other with his psalm-singing Ironsides, had a wonderful material to work upon; for even at the present day the Southern gets impatient at being kept any length of time under fire.

The dislike of the Tudors to firearms, which has induced many to suppose that the bow was still then the favourite weapon of the conquerors of Agincourt, arose from as paltry a feeling as ever disgraced a crowned head. Henry VII. objected to the crossbow, because much damage had been done by it to the king's deer. Henry VIII. would allow no one to possess a hand-gun, unless he also possessed 100*l.* a year, and then was stock and barrel together to be no more than twenty-seven inches long. Edward VI. considered that "Hayle shot" was pernicious, owing to "much foul and game having been destroyed." Singular to say, it was the wife of Philip of Spain who not only countenanced the men of England in the improved system of warfare, but ordered every man worth 10*l.* a year to furnish himself with a hand-gun. Even Queen Elizabeth issued, as late as 1596, a warrant for the Lord-Keeper to pass commissions for the maintenance of archery. But the day had gone by when the citizen could at any moment be driven from his counting-house to the muster parade. Some great emergency, such as the fear of the Spanish invasion, or the mistrust of the Stuart, would call forth all his energy, and he would cheerfully put on helm and breastplate; but he preferred the soldier doing the soldier's work, and all Elizabeth's proclamations could not rescue the Artillery Ground from the ridicule of the London apprentice, and

the civil wars had not lasted long before the conquerors of Naseby had become a class distinct from the trainbands of London.

The vast improvements which the Italians had introduced into modern fortification, and the adoption of their system by all continental states, had now rendered it necessary for the engineer to endeavour to bring offence on a par with defence, and the successful discoverer became the greatest man of his age. That man was Vauban. We often hear of Vauban's system. Vauban had no system. Although he assisted at the repairs of three hundred fortresses, and erected thirty-three new ones, we can find no two alike. In the plans of the earlier Italian engineers we find system, for these men had created plans, and according to their plans they would fortify all places alike. Vauban's only plan was to strengthen the spot pointed out to him, so that the greatest advantage might be taken of the nature of the locality.

Vauban's great forte, however, was the art of destruction; anything opposed to him, whether natural or artificial, seems to have aroused all his energy, and he was never satisfied till he had conquered it. The bastion system had so strengthened towns against the artillery of that day, that generals often preferred leaving them alone; and if it were absolutely necessary to besiege one, the operation was tedious, costing thousands of lives, more perhaps from disease and fatigue than from the enemy's fire. But Vauban would set down before a town, and at a glance seize the weakest point, calculate to a nicety the strength of the walls, determine thereby the amount of material necessary for its reduction, and then say, in so many days "it shall be mine." The strength, however, of his siege attack consisted in the then proper application of the force of gunpowder for that purpose—ricochet firing.

The increased resistance of masonry had at an early period induced artillerymen to endeavour to obtain a flank fire, and we also find that Albert Dürer and Leonardo da Vinci had studied the ricochet of shot. But Vauban was the first who appears to have united the two, so as to make a serious system of attack. Throwing up his batteries, so as to take the curtain or face of a bastion in flank, he lessened the charge and elevated the gun, so that the ball in its descent might just go clear of the enemy's parapet, and drop within their works. By this means the ball, coming to the ground at a small angle, and with a small velocity, it bounds along in the direction it is fired in; and therefore if the piece be placed in a line with the battery it is intended to silence, or the face it is to sweep, each shot rakes the whole length of that battery or front, disabling and dismounting the guns. The discovery may appear a slight one, but, like that of Columbus making the egg to stand, merely shows how long it takes before a simple idea will strike the

world. Yet the effect of this simple idea was to cause perfect consternation, not only in the minds of engineers, but also in that of governments. Engineers were vexed that their numerous self-supporting flanks, well strengthened with cannon, should be rendered useless by balls coming hopping along and knocking over their guns and destroying the carriages. Traverses, or earthen mounds, were erected at certain distances to obviate this evil. But they did so in a most imperfect manner, for they also were overthrown. Further than this, however, the evil could not be remedied, for the new fortification had cost vast sums of money; indeed, none but large wealthy states could afford them at all.

From Vauban's time till now, engineers have endeavoured to discover some method by which the deadly effects of ricochet may be obviated. Numerous theories have been brought forward by men skilled in military science to obviate this evil. The world is apt to imagine that the art of fortification is so established, that when a government entrusts its engineers with erecting a fortress, a plan will naturally arise according to certain fixed rules. No set of men, however, differ more materially in their opinions than engineers; and at the present day, when the French Government was fortifying Paris and Lyons, officers eminent in their profession, such as MM. Carnot, Haxo, Rogriat, &c., proposed not only plans differing from one another, but even from what is usually taught.

But to show the enormous expense attending any improvements in the science of warfare, we shall merely state that the great Carnot was supposed to have made a discovery. He imagined that if the scarp wall were detached from the rampart, the assailants, when attempting to surprise by escalade or by main force, not only having to mount a wall twenty-four feet high, but also to lower themselves down a similar depth, would suffer greatly, especially from the musketry fire which could be directed through the loopholes. One important fact, however, had been overlooked, which was, that this wall might be destroyed. The experiment was tried at Woolwich in 1822. A battery was erected so as to fire at it at high angles. In three days' practice the wall was a mass of rubbish. The world may ask how was it that Carnot and the French Government did not think of this before they ventured on altering many of their fortified towns to Carnot's system. The answer is simple, yet conclusive. Science had not yet brought artillery to the point by which such a method of attack could be made or thought of.

When gunnery was first introduced into European warfare, engineers simply considered that a discovery had been made which would supersede the mangonel and trebuchet,—machines which, constructed at enormous expense, were too ponderous to be moved.

Instead of these, a certain powder was to be put in a tube, and this was to propel the stone shot hitherto thrown by the mangonel. In course of time, as iron was better worked, and powder better manipulated, and iron shot substituted for stone, we find artillery more extensively used, because it could be conveyed with armies without great hindrance. Nevertheless, the military writers of the fifteenth and sixteenth centuries still looked upon it as a mere machine, which fired off missiles straight before it, and that the more powder you put in, and the bigger the shot, the more perfect it was. We must not, however, suppose from this, that other ideas had not been broached. In those wonderful little memorandum books of Leonardo da Vinci, which are preserved so scrupulously at the Institut at Paris, and which we hope one day the Emperor Louis Napoleon will cause to be published in their full originality, and in his folio "N," at the Ambrosian Library, we find some marvellous thoughts on artillery:—

"If a bombard be thrown various distances, with various elevations, I ask, In what portion of its range will be the greatest angle of elevation?"

—and a small geometrical drawing gives the answer, by pointing to the 45°.

"The longer the path the shot makes in this (the bore of a bombard), the more powder is ignited. Such shows that the act of firing is made with divisible time, and as many more parts of time it lasts, so much the more powder burns; and the more the fire crowds itself in such a machine, the greater will be the impetus and fury with which the ball will be thrown from it."

"A bombard which throws heavy stones is far more useful than a piece which throws leaden balls, for the stone causes the enemy much harm by its bounds and ricochets, whilst the leaden ball by its weight buries itself in the first spot it strikes.—Prove why the wall falls in the direction of the blow of the shot? Since at the present day artillery has increased three-fourths in strength, walls of fortresses should also have their resistance increased threefold.—Do not place the mine at the extremity of the angle of a fort, because it would overthrow outwardly the part of the wall which forms the exterior angle. The expansive force acting between two resistances will overthrow the exterior part, being the weakest: it will spare the interior part, which resists the more it is pressed.

The arch-thunderer is a brass machine, which throws iron shot with great noise and violence. It is thus used. The third of this instrument consists in a great quantity of charcoal fire. When the water is very hot, you must tighten the screw of the vase *a b c*, where the water is; and by tightening the screw above, all the water will escape below, falling into the heated part of the instrument, and will immediately turn into steam so abundant and so strong, that it will be marvellous to see the firing of this smoke, and to hear the noise it produces. This machine throws a ball of the weight of a talent and six . . . ."

We do not suppose for a moment that these ideas all originated with the great philosopher of the fifteenth century, any more than his deep problems on gravity, the resistance of the air, the motion of ununiform bodies, the descent of heavy bodies combined with the rotation of the earth, &c., a slight notion of which has been given to the world in the pamphlet published by Venturi, and the more than careless chapter by Libri, in his "Histoire des Sciences Mathématiques en Italie;" but still they show what were the subjects of discussion among the master-minds of his time, such as Luca Paciolo, whom he used to meet at the Academia he had founded at Milan. Yet, from these theories in gunnery, based upon experience, to experience based upon theory was a long step. Leonardo knew that powder, igniting, formed a something he called *fuoco*, but which he considered different from common flame; that it ignited by degrees, and not instantaneously; and that the greater the quantity of powder ignited, the greater the force of the shot. Newton, beyond supposing this *fuoco* was a vapour, did not improve much on the idea. Boyle termed the vapour a fluid, and Staalh considered it was air in a state of condensation in the grains of powder, brought into activity by fire. Hawksbee improved on this by supposing this condensed air acquired an expansion of 222 times its volume. Belidor started the theory that sulphur and saltpetre possessed certain virtues which freed the air, and that gunpowder and volcanoes exploded much by the same means—a theory very nearly akin to that of the monks in the days of Roger Bacon, who could only consider sulphur-burning as a decidedly Satanic smell. Bernouilly, nearer the mark, supposed fire freed the air condensed in each grain; that after ignition it occupied 200 times the space it did before, and that heat expanded it 1000 times its primary volume, at the same time that there was something in it besides air. De Saluces was, however, the first man who went properly to work on the subject, and he based his theory on experience. The several ingredients of gunpowder first separate, then combined together, having been placed in glass flasks into a heated oil-bath, where the thermometer indicated the degree of heat, it was found that sulphur always ignited at 593° Fahr., and that a moment afterwards the powder exploded; but saltpetre by itself would not fuse, nor would charcoal take fire at that heat, nor would any mixture of the two latter produce that effect; but that at a greater heat, saltpetre and charcoal alone produced a more violent explosion than when united with sulphur. Ingan Houffe, following up these experiments, found that the ignition of powder was successive, being caused by the ignited particles of charcoal igniting the particles of nitre. At last it was discovered that sulphur, combustible at a certain temperature, was raised to a higher combustion and ignited the charcoal, which in its turn,

raised to a higher, ignited the nitre, and thus explosion was caused. Yet still was it all air concealed in some wonderful manner; as some thought, in each ingredient; as others imagined, in the total mass. A Cavendish and a Priestley had yet to come, and explain to the world the elements of nature; and it was not until the nineteenth century, that chemistry had made sufficient progress to allow of the computation with any accuracy of the strength of powder when ignited. Having ascertained that it then expands to about 4000 times its original bulk, chemists have at length given to artillerymen and engineers the data upon which they can act with tolerable certainty.

If the nature of gunpowder itself was so little understood, we must not be surprised that the progress of artillery was so slow. For, even in such matters, it is not sufficient that science should throw a light on the subject, but also that public opinion should clearly express itself, as to the necessity of a radical change to meet the wants of the times. We have already seen that gunpowder had caused one mighty revolution in the state of Europe. The castle and the walled city had disappeared, and the limits of districts had vanished, and in their stead nationalities had arisen. Fortifications were now erected on a general plan for national defence, and certain towns were selected which formed what is termed lines of defence, and on these large sums were expended, whilst armies were furnished with long heavy twenty-six and twenty-four-pounders, so as to keep the enemy as far off as possible. Gunpowder was, however, to effect a greater change still, not by means of the mine or heavy siege-gun, but the musket. In the hands of the Spaniard, it had cleared the man-at-arms off the field; but, from its great weight and slow loading, it was frequently overcome by the rapid charge of the light-armed horseman—a species of warfare well understood by Turenne and Condé. But the introduction of the flint instead of the slow-match; that of the bayonet, by means of which each foot-soldier became at once musketeer and pikeman; the improvement in the manufacture of iron, by which the barrel could be lightened one-half, and an iron ramrod substituted for the wooden one, which so often broke,—gave the foot-soldier a power hitherto unthought of. What had science not done, when it had formed the grenadiers of Frederic the Great from the same class which Philip de Valois had ridden over at Cressy as "gens de nulle value!" The Prussian monarch taught Europe that he could march his troops without troubling himself about fortresses; and that activity and goodwill, as a general rule, were better than masonry. As usual, it took many years and a good deal of slaughter before Europe would learn the lesson; but as the actors in the Seven Years' War returned to their homes, they set themselves energetically to introduce this improved system of warfare.

In England, the Government, as usual, did not trouble themselves much about the matter, but in France the subject was discussed to its fullest extent, for there it received the greatest opposition. In spite of two ordonnances of the king, of the verdict given by a board of marshals, consisting of men eminent in their profession, such as Rohan-Soubise, Richelieu, De Broglie, and De Contades, not only the regiment of artillery, but even the Académie des Sciences, was rent by the partisans of the old and the new systems.

Voluminous works were published, pamphlet succeeded pamphlet, and the Encyclopædists were alternately canvassed by either party. The old system had succeeded so well, especially at Fontenoy, where the formidable English columns, almost masters of the field of battle, had been arrested in their forward movement by its long range. For thirty years had it supported the pre-eminence of the French artillery in Europe, a pre-eminence recognised so long ago by Guicciardini. Why, then, should its organization be altered?

Was it not far preferable to take into the field a few well-served guns, than a multitude of light pieces which could but encumber the army on its march, and perhaps impede movements by the scarcity of provisions it might entail? Did not the guns of the old system possess longer range, greater accuracy in firing, and less recoil? Were they not more certain and murderous in their effects? The very roads would be destroyed by the multiplicity of these new carriages, and the treasury ruined by the expenditure they would necessitate. Such were the arguments brought forward by the partisans of the old system. But the other side contended that, for the French artillery to keep up that eminence which was so boasted of, it was necessary to keep pace with the style of warfare then in vogue; that the tactics introduced by Frederic of Prussia necessitated greater mobility in the material of an army, whilst pieces weighing thirty-three and twenty-two hundredweight, which were the respective weights of the old eight-pounders and four-pounders, placed on a two-wheeled carriage, could not keep pace even with infantry, the manœuvres of which had undergone such important changes; that the improvements in muskets, and the greater reliance placed on infantry fire, having brought about the extended formation of three deep, a greater number of guns was required to neutralize its effect; that though the old system possessed long range and accuracy, it was still possible to reduce their length, and yet maintain these points;—facts pointed out by Belidor, and clearly demonstrated by Robbins: bronze also was cast with greater tenacity, which enabled the amount of metal to be reduced without fear of explosion; whilst the increase in the recoil, caused thereby, mattered but little in

the field, where it was perfectly immaterial whether a gun was at 600 or 700 yards from the object aimed at. Yet the defenders of the old school poured forth such a torrent of names, of sieges, and battles, in which their heavy artillery had succeeded wonderfully, that one of their opponents wittily compared them to M. de Turenne's horse, who after having been in many an action, was none the wiser, adding, what was felt as a sarcasm by every follower of Folard, that war was no longer carried on as it had been under Turenne, nor even under Marshal Saxe, and therefore it was no use to quote history. It was Gribeauval, however, who completely refuted the arguments brought forward against the shortness of range of the new system, by putting in practice Robbins' theory of windage. He soon after reduced the weight of the gun about one-quarter; the carriages, by means of the limbers being attached, caused the guns to be placed upon four wheels instead of two; iron axletrees were substituted for wooden ones; and so great were these improvements in field artillery, that it scarcely underwent any alteration up to the end of Napoleon's reign. And right well did the musket and the light gun do their work, when, but very few years later, it enabled the colonists of America to throw off the yoke of a bigoted Government, and the French peasantry to teach Europe that there was something to live for beyond having to bow to the divine right of kings, proving at last in the person of De la Tour D'Auvergne, "premier Grenadier de la France," that all ranks must find their level. But in spite of peace societies and their able advocates, we cannot forget that experience has proved but too fully that to be free, men must be able and willing to maintain their freedom; and that if the harquebuss superseded the bow, and the musquetoon the harquebuss, and the musket the musquetoon, it was because men must arm themselves with the most efficient weapon.

We are now approaching a further change in firearms—a change, of which the most scientific men do not see the end, but, nevertheless, one which it is the duty of this country to watch most carefully. Its origin is curious.—In 1742, a simple English mathematician published a small treatise, entitled "New Principles of Gunnery." This work at once made an enormous revolution in the minds of artillerists, for it irrevocably proved how the resistance of the air, acting upon projectiles, opposed their motion, and thus continually diminished their celerity, whilst it perpetually diverted them from their regular course by the uncertain whirling motion it imparted. The first of these difficulties he pointed out could only be counteracted by giving greater efficacy to the charge, and shaping the projectile so as to overcome this resistance;—the latter, by decreasing windage and introducing rifling. But in this small outline, what gigantic

study was involved. It included the laws of motion in their greatest perfection; and the study of chemistry, not only in its researches into the nature of matter, but in its application in connexion with pneumatics. Robbins was too learned a man to suppose he could ever carry out the perfecting of these matters, for in his own studies he had learned to understand the difficulties which had stood in the way of his predecessors. To a Newton he had been indebted for correct notions of the laws of gravity; to a Descartes for the facility of calculating curves. And, therefore, instead of boasting as men do now-a-days of their discoveries, and endeavouring to force public opinion in their favour, he says:—"I shall conclude this paper with predicting, that whatever state shall thoroughly comprehend the nature and advantages of rifled-barrel pieces, and, having facilitated and completed their construction, shall introduce into their armies their general use, with a dexterity in the management of them, they will, by this means, acquire a superiority which will almost equal anything that has been done at any time by the particular excellence of any one kind of arms; and will, perhaps, fall but little short of the wonderful effects which histories relate to have been produced formerly by the first inventions of firearms."

Some years later, under the auspices of the Duke of Richmond, then Master-General, a committee, amongst whom we find the names of Dr. Hatton, Major Blomfield, and Captain Congreve, was appointed to follow up the inquiries begun by Robbins. The experiments were begun in 1775, and were carried on for several years; the principal points for inquiry being—1st. The velocities with which balls are projected by equal charges of powder from pieces of the same weight and calibre, but of different lengths. 2nd. The velocities with different charges of powder, the weight and length of gun being the same. 3rd. The greatest velocity due to the different lengths of guns, to be obtained by increasing the charge as far as the resistance of the piece is capable of sustaining. 4th. The effect of varying the weight of the piece, everything else being the same. 5th. The penetration of shot into blocks of wood. 6th. The ranges and times of flight of shot, with the velocities by striking the pendulum at various distances, to compare with their initial velocities for determining the resistance of the medium. 7th. The effect of wads, of different degrees of ramming or compressing the charge,—of different degrees of windage,—of different positions of the vent, of chambers, and trunniuns. The results of these are well known to the scientific world by the publication of Hutton's Mathematical Tracts; they were, however, not much noticed at the time on account of the breaking out of the French revolutionary war,

which directed every man's energy towards that sanguinary conflict, and they were finally lost sight of by the British public, who, as for as artillery was concerned, was perfectly satisfied by seeing the reviews on Woolwich Common, when dust, and smoke, and a glimmering of gold-lace sent them home convinced that nothing could surpass its efficiency.

In December, 1849, however, General Paixhan, in his "Constitution Militaire de la France," headed his first note:—

> "Sur un nouveau fusil qui est fait,
> Et sur un nouveau canon qui est à faire."

It is unnecessary for us to say that, beyond such men as Sir Howard Douglas, who, in spite of the perfection of the nineteenth century, thinks these points may be still further perfected, no one in England had heard of this "fusil qui est fait," much less that it had been occupying the attention of artillerymen for many years. Yet in France, since the Peace of 1815, experiments on an extensive scale had been carried on, and the careful studies of a few energetic officers threw a light on the subject exceeding anything dreamed of even by Robbins. It being a recognised principle that if the grooves gave greater accuracy, they diminished the range, it became necessary to discover what should be the number and nature of the grooves, and also what force should be given to the projectiles. It is not our purpose to follow up in detail the experiments of such men as Delvigne, Mignè, Tamisier, De Pontcharra, and Pritchett,—experiments, which, in order to be understood, require great knowledge of the mathematical and physical sciences. Suffice it to say, that Delvigne pointed out the idea of causing the bullet to force itself into the grooves by its own expansion, instead of being forced into it by ramming down, by which means it assumed the form of the grooves, instead of being deformed by them. It was not, however, until many years' trials, and much serious attention had been bestowed on it, that the present beautiful Pritchett bullet was obtained. But whether under the varied form of the cupped Minié, of the grooved Tamisier, or the simple Pritchett, its moral effect was nevertheless the same. Once more the soldier, who had gallantly faced a volley of musketry, felt uneasy at the prospect of death inflicted by an enemy who was not only unknown but perhaps invisible; and the fear of the *carabine* of the Chasseur de Vincennes did more to subject the Italian liberal, or the Bedouin, than ten times the number of enemies would have done. Here, then, was the "fusil qui est fait,"—perhaps the greatest revolution which will ever take place in firearms. All Europe spoke about it. On all sides it was asked, of what use would now be the heavy siege-train or the field-gun. Would

not the gunners be picked off from behind their entrenchments, or whilst manning their pieces? What field-battery could withstand a volley of Minié rifles at 1000 yards? The world, in its astonishment, had forgotten that what could be done with a rifle might also be done with a larger gun. The nature of both was the same. Difficulties had to be overcome with the one as with the other. Artillerymen had succeeded in the one case, why not in the other?

Two points had to be taken into consideration:—firstly, what form should be given to the projectile and gun; secondly, what they should be composed of. These are both matters for the artilleryman's consideration, but the latter is also especially for that of a government, as it involves expense, and money is the sole basis of war.

Ever since it had been discovered that the momentum of a body was equal to its mass multiplied by its velocity, the attention of artillery officers had been directed towards reducing the mass and increasing the velocity; consequently, we find at the sieges of Burgos and St. Sebastian the largest gun used was the twenty-four-pounder. General Paixhan, however, came to the conclusion that the theory of velocity had been carried to about its highest necessary pitch, and that perhaps he might obtain greater results with a larger mass and less velocity. The reasoning was this: To increase the velocity of a projectile the charge must be increased, and if the charge is increased the strength of metal to resist that charge must also be increased, thereby adding greatly to its weight and to the difficulties of its portability. But was it necessary to have so great a velocity? would not less suffice for all purposes? General Paixhan simply proposed to increase the size of the projectile and decrease the amount of charge; that is to say, that an eight-inch hollow shot might be fired with a thirty-two-pounder charge, and consequently out of a gun weighing no more than a thirty-two-pounder. This was tried at Brest, in 1823. The first round fired into a line-of-battle ship made a breach of 150 square feet, filling the inside of the vessel with a suffocating smoke, the second round carrying away the mainmast and ironwork weighing 130lbs. The President of the Commission of Inquiry, Marshal Marmont, at once became its warmest supporter, and had it introduced into the French service. General Paixhan thought he had made a great discovery, when that of the "fusil qui est fait" showed him there was yet more to be done. Every sort of trial has since been made to rifle iron ordnance—every form of projectile tried; and amongst other inventors, Lancaster, the London gun-maker, thought he had discovered the "cannon qui est à faire." What was a rifle groove but a curved indentation to give a twist to the

bullet? why should not the whole bore be formed so as to give this twist? Hence the elliptical bore. Then arose the difficulty of constructing the projectile. It was, of course, to be of an elongated form. But could an iron shell be constructed of such a nature as to yield to the metal of the gun? Here was a grand difficulty; but even this difficulty was overcome to a great extent, and the worker in iron may justly be proud of his work. Yet the gun which was to be made in 1849 is not yet constructed in 1857. It is not sufficient when attempting great improvements in firearms to be able to say that a certain thing has succeeded very well, but the Government must be satisfied that the improvement is such as to justify the vast expense entailed by the change. When Paixhan introduced his shell-gun, he pointed out not an invention of his own, but a great fact based on science, and all European nations went to a great expenditure in arming their fortresses with eight and ten-inch guns, and this arming is still going on. A rifled gun must therefore be a very perfect thing, before we can think of substituting it for the Paixhan: and when we speak of a perfect gun, there are many matters to be taken into consideration, which are frequently lost sight of by the public. A gun may be made to fire further by adding great weight, because you can then use a greater charge; but then this weight itself condemns it for service. Lead yields willingly to iron; and some propose leaden shot, and leaden bands to iron shot for large guns. But lead, besides being too heavy for carriage, is too expensive; and, after all, in war money is everything. How should we have been able to obtain our thousands of guns for our fortresses and navy, were it not for our enormous production in iron, and the cheapness with which we work it? This is a subject we but too often lose sight of. When those terrible bombardments took place at Sebastopol, and that our resources in shells appeared never to be diminished, we heard but little of the man by whose great scientific knowledge and vast energy those masses of shells were obtained; and yet where should we have found the iron, or of what use would this knowledge and energy have been, had it not been for the great foundries of the kingdom, and the improvements in machinery, which enabled Captain Boxer to feed those ever-hungry guns? That science will in time give us an improved siege and field-gun there can be no doubt; but this improvement will, like all others, be effected, not by a Whitworth, or a Lancaster, or a Vulcan, or any other single individual, but by the united ideas of many inquiring minds, belonging to many nations, taking advantage of the progress of knowledge of the age.

Besides, although the Paixhan gun is not perfect, it has

already caused another revolution in the art of fortification. The system of angular bastions, in spite of the improvements of Cormontaigne, Carnot, &c., has become useless, for these eight-inch shells in a few rounds destroy guns, traverses, and carriages. The careful approach with its parallel is now seldom required; for, instead of wasting time and life, a short bombardment effectually does the work in a few days. It would appear as if fortifications had become useless. When Frederic the Great showed that by rapidity in movement he could compensate for a mass of forces, such men as Guibert, Fourcroi, Gribeauval, and Puysegur, proposed to abandon twenty-six of those mighty fortresses which Louis XIV. had erected to render France impregnable; but when, subsequently, Napoleon had conquered the Continent in spite of the fortresses on the Rhine, the Elbe, the Oder, or the Danube,—when it was seen that even these strong positions had only absorbed his finances and paralysed his armies, it began indeed to be seriously considered what should be fortified. And how much more serious is the question now, when the improvements in the art of attack have rendered that of defence still more costly. Yet no improvement in the art of war will ever prevent fortifications from being a necessity. Fortification is not this or that system—it is time; and, though perhaps it is often three or four years of defensive works opposed to but three or four months of offensive work, in warfare time is everything. Fortification, therefore, at the present day is the obtaining of time—an important point—to enable a nation to bear all its strength on those points: points which, to the safety of a nation, bear the same comparison that the key of a position does to that of a battle. Such a point was Sebastopol. It was not merely a town, but the point from whence Russia overawed the south-east of Europe. But Russia, in making that its battle-field forgot that her enemies could bring fresh forces to the point of action by means of steam, whilst her own arrived jaded, and worn, and decimated, by toilsome marches of hundreds of miles. Therefore, at the present day when fortifying, it must be remembered, that those fortifications must be connected with the resources of the country in such a way that they may be poured on to its rescue. Fresh guns, ammunition, troops, must have ready means of conveyance. An aggressive country like Russia will look for such points in Sebastopol, Cronstadt, or Cracow. France, taught by experience, will look to its capital; Sardinia to its stronghold of Alexandria. But England, which makes no real difference between London and Liverpool, Manchester or Birmingham, will look to see that its dockyards and arsenals are strengthened by every means which art can point out, whilst its numerous seaports are protected from a *coup de main*. The destruction

of Portsmouth, or Devonport, or Sheerness, would be to England what the loss of Sebastopol was to Russia. England possesses also another point of importance to her pre-eminence—Woolwich. But it would appear as if some special Providence had undertaken to see it unharmed. Nearly a century ago, General Tarleton pointed out its nakedness to the House of Commons; since then, amongst many great authorities on war, the Duke of Wellington and Sir John Burgoyne have stated their conviction that it should not be left in its present unguarded state. Yet in General Tarleton's time, Woolwich Arsenal was but an iota to what it was ten years ago, and nothing to what it is at the present day. Stone buildings have succeeded wooden sheds, and an enormous manufacturing district to a row of stores. Acre after acre is covered with either foundries, machinery, or stores. Destroy Woolwich, and both our army and fleet would be powerless: guns without shells, muskets without bullets. And yet we are told this is a judicious economy. We remember well when Sir John Burgoyne published his celebrated pamphlet on our national defences. Every one laughed. *The Times*, the *Daily News*—all the press, in fact, ridiculed it. Soon after, the results of a French naval inquiry made in 1848 were published, wherein an attack upon England was duly investigated; then followed the *coup d'état*, and people laughed no longer. But no sooner has present danger passed over, than we forget our fears, and cry out for economy at all hazards. But let us make use of our common sense. Let us secure first, economize afterwards. It is hard to explain to the public that whilst they have been annually voting such large sums for the War Department, these matters are not as they ought to be, especially when the naval and military intelligence of the daily papers din into one's ears about visits of heads of departments to see this or that fort at Portsmouth or Plymouth,—the anxiety shown at Chatham for the instruction of soldiers in the use of the Minié rifles,—the daily musterings at Woolwich, &c.

Lords of the Admiralty, and other men in office, are in the habit, it is true, of visiting dockyards, and seeing the nakedness of this or that position, order that they should be protected in an efficient way. Great towns like Liverpool also force themselves on their attention. But, as we have said, there are other points which, to the mass, are of equal importance, such as our great and only arsenal of Woolwich, the destruction of which would amply compensate an enemy for the loss of thousands of lives; or others, like Harwich, which though of little importance in themselves, are in reality very great, commanding towns, which, like Ipswich, form the sinews of Great Britain. It is not our intention to point out what system ought to be pursued in

such fortifications; we should be quite satisfied with any which will insure security. For we cannot but remember that we are still forming a worldly state, and that however strong the peace party may be in England, it is a word little understood abroad. We are fond of minding our own business, but others are not so. Let us but consult General Paixhan. He was not only a very excellent French soldier, but a learned senator, and, if alive now, would no doubt be a confirmed ally. But what does he say in his "Constitution Militaire de la France," with respect to the destruction of such places as Woolwich or Ipswich? "Instead of building line-of-battle ships, to add fresh laurels to England, let us construct small rapid steamers, where steam and gunnery can show their full power. Let them be manned by energetic soldiers and seamen. Let them start from the different ports, so as to reach some point on the British coast the same night, and at the same hour. Let them then, either by a disembarkation or shower of shells, leave one of those marks the traces of which will remain deeply engraved; then disappearing as suddenly, let them reappear as suddenly a hundred miles further on the coast. Some of our shipping and of our combatants will, no doubt, be lost, but if England can but feel her shores are unsafe, it will be an immense fact for France and the world." We have heard a good deal about our navy keeping us free of all such disasters, and so it has done many a time. But, at a period when our navy did more to preserve England than at any other, a man whom we have all been taught to look upon with respect for his opinions, the great Cecil, Lord Burleigh, in a memorandum which he drew up "Touching the Town of Harwych and the Island of East Mersey, February, 1585, for repairing its Fortifications," says, "The Channel is now grown so good, and the entry so well known thereinto by strangers, than where, heretofore, within forty years or not much more, no stranger durst adventure to come into the haven, though it were in the daytime, without a pilote from the town, now in the darkest winter night, where in the evening there cannot be one sail descried by the inhabitants from the seaward, yet in the morning there have been lying before the key of the town, within this two years past, at one time more than twenty-six sail of ships, all strangers, and not one Englishman amongst them." We can only add to his remark that, since his day, the way to our ports is better known than ever, and our charts are so perfect, that a ship can be piloted across the Channel in the thickest fog merely by sounding.

With respect to another point, that of arming our troops with the improved musket, there can be no two opinions. Yet, as things are now managed, how many years will it take before

this is effected? At the present moment, the militia have none, there are none in our stores, and the whole of the East India Company troops are yet to be provided;—a matter not to be overlooked when we must be prepared for so many Chinese and Persian wars; and that, however barbarous our enemy may be, we cannot expect success when we do not make use of that superiority which civilization has given us. We cannot reckon our militia and stores at less than 500,000; representing, taking one expense with another, at least 1,500,000*l*. The sooner, therefore, this is done the better. But, instead of the matter being placed clearly before the House, the country is asked for one-third that sum; and year after year this will be repeated, until we have paid double what we should if we looked the matter boldly in the face. Whilst if in the meantime any emergency arise, the cry for Miniés will be answered by the echo, "Where?" It must not, however, be supposed for a moment that the Commander-in-Chief, or those much-abused gentlemen, the heads of departments at Woolwich, are answerable for such deficiencies. The Commander-in-Chief knows as well as any man the melancholy state of our small-arm stores. He is aware that there is not a rifle to spare—the army itself being barely supplied; whilst the militia use the old line musket. As to our stores!—even the militia muskets could not be replaced. The disasters of the war and the Turks have taken all our spare ones. Yet what time should be chosen for remedying this evil? A time of peace, or a time of war? A period when the Government can command its own prices in the market, and be prepared against emergencies; or war prices, and nothing to fall back upon? Will the people of England thank the Government for the reduction of half a million under such circumstances? Will they not rather force it to a more healthful style of governing? The seriousness of the question will be understood at once by every business man. Let it be arms or boots which may be wanted in any greater number than the manufacturers of this country have been in the habit of making, it takes a long time before such numbers are forthcoming, for works must be enlarged, materials obtained, and extra workmen trained. Therefore, instead of dabbling year by year in small sums to get what is wanted, speak fairly to Parliament and the trade. Tell the former that such and such things are absolutely necessary, and tell the latter that such a sum will be expended amongst them, and then the stores will be filled in three years instead of ten, whilst the obnoxious items will be obliterated from all future estimates.

The position of heads of departments at Woolwich, as regards these matters, seems to be so little understood, that it may be as well to say a few words in explanation. Although they are

artillery officers, selected by the War Office entirely on account of their professional ability, yet they have not the power of spending one sixpence, or ordering the adoption of any matter, however trivial, without the sanction of the civil heads of the War Department, who, on taking office, do not miraculously acquire thereby the knowledge which is required for the business they have to transact. These heads of departments are, therefore, but so many superintendents of different branches of the great manufactures of war implements at Woolwich—foremen, so to say, of the Minister for War, in his capacity of manufacturer. They correspond with him as to the minutest detail, let it be a new form to be given to the spoke of a gun-carriage or the discharge of a labourer; and this correspondence, after its journey through the circumlocution offices, has to be stamped with the signature of the great central authority. It is true, that he is guided a good deal by their recommendations, as to alterations or improvements; but when inventions are submitted to them by the War Department, they are not asked whether a bullet three inches long will not carry better than one an inch long,—whether a breech loader cannot be loaded more rapidly than the other,—whether Lancaster's shell does not carry further than the common shell, &c., but whether these matters are improvements of so decided a nature that it will warrant the War Department incurring a certain expenditure for their adoption—an expenditure which will have to be laid before the House of Commons in the estimates, and be severely criticised. Still less have they got it in their power to put our means of defence on the footing they may know to be necessary. Each superintendent represents what he thinks right for his own department; but the Minister for War, with a stroke of his pen alters all that, and cuts out his estimates according to the policy of the Government he belongs to. He, therefore, in connexion with the First Lord of the Treasury, is alone responsible to the country for the state of its armaments, and to him alone must the public look. Yet will there ever be complaints and misunderstandings, until not only our army, but its resources, are placed under a capable military head as Minister for War, who will be held responsible by the nation for placing before it a clear statement of its requirements to maintain that security it has so long enjoyed. And let us ever remember that a nation can never keep its freedom, unless ready to maintain it at any time, and that for its own security it must make use of those means which Providence has placed at its disposal. When, centuries ago, our forefathers first introduced gunpowder into warfare, they did so simply because they thought a discovery had been made which would give them greater power over their enemies; they were unacquainted with its real nature, and never for a moment dreamt to what it would

lead. But we have no such excuse. The experience of five hundred years has shown us that those masses, which were once kept in ignorance and serfdom by the help of the buckler and battle-axe, have been able to emancipate themselves by means of the fire-arm. Protestantism itself owes its victory to the artillery of the Princes of Saxony. And if the first introduction of gunpowder was the cause of the destruction of the feudal system,—if, at a later period, it enabled the Protestants of Germany, France, and Holland, to assert man's freedom of opinion,—if, within the last sixty years, it assisted the French peasantry to overthrow, throughout Europe, the prejudices and superstitions of ages,—and if it has enabled Great Britain to spread civilization over the most distant portions of the globe,—surely, while wondering at the extraordinary power which science has evoked from so simple a matter, we ought to endeavour to bring it to a higher state of perfection,—not forgetting, however, that it should be used but in self-defence, and even then reluctantly; for the greater our power, the greater should be our forbearance.

Art. IV.—Glaciers and Glacier Theories.

1. *Travels in the Alps of Savoy.* Second Edition. By Professor J. D. Forbes.
2. *Visit to Norway and its Glaciers in* 1851. By Professor J. D. Forbes. Longman and Co.
3. *Letters on Glaciers, Nos.* 1 *to* 13. By Professor J. D. Forbes. "Edinburgh New Philosophical Journal," 1842-6.
4. *Observations on Glaciers.* By John Tyndall, Esq., F.R.S., and T. H. Huxley, Esq., F.R.S. "Proceedings of the Royal Society," January, 1857.

THE general phenomena of the glacier world have been so clearly and graphically described in Professor Forbes's well-known "Travels," that it is unnecessary for us to preface the remarks on the present state of the theory of glaciers, which will form the body of the present article, by more than a brief summary of those leading facts bearing upon the theory, which may at present be regarded as placed definitively beyond controversy.

In cold weather, and in those regions of the earth's surface in which, either from the height or from the latitude, winter permanently resides, the atmospheric moisture is not precipitated in the form of rain, nor commonly in that frozen rain which we know as hail, but as snow; in little flakes, each of which is an aggregation

of delicate crystals of ice. Piled flake upon flake, the mass of fallen snow, so long as it is protected from external warmth, and the surrounding atmosphere continues to be dry and cold, remains unchanged; inclosing a vast amount of air, it is almost as bad a conductor of heat as the down it so much resembles, and it protects the surface which it covers, not only from the action of atmospheric changes, but from that cooling by radiation which it would otherwise undergo.

But let the atmospheric temperature rise a little, or let the sun's rays strike upon the feathery crystals, and the snow suffers a change, its flakes appear to undergo a partial superficial melting, and instead of resembling down, the snow is now a mass of small granules, more nearly comparable to partially boiled sago. It is in this granular condition that snow which has fallen a few hours is usually observed in this country. And if we travel through the vast valleys which separate the peaks of the Swiss Alps, at a level of seven or eight thousand feet and upwards above the sea, we shall find them converted into great plains by the accumulation of an enormous thickness of such granular snow—the aggregate, perhaps, of the snows of many ages—within their basin-like hollows. The German Swiss call the snow in these vast snow-tarns *Firn*, while the French Swiss term it *Névé*.

Snow evaporates without melting with considerable rapidity; and while the sun is above the horizon, his rays beat with a force which surprises the inexperienced traveller. Observation has shown that the *névé* undergoes rapid waste from both these causes, but there is a third mode in which the mountains are relieved of their load. Every one of the great basins which have been described, runs off into one or more comparatively narrow gorges, which pass with a gradual descent along the flanks of the mountain-chain, and debouche frequently far below the level of perpetual snow. Such gorges are those which lie at the foot of the Finster Aar Horn, or those in which the higher termination of the valley of the Rhine loses itself; and a magnificent system of these valleys is seen by the traveller who has the good fortune to be on the top of the Eggischhorn in fine weather.

These outlets of the great snow-fields are also filled with frozen water, but in a very different state. No longer loose, incoherent, granular *névé*, but a dense, solid mass of ice, the 'Glacier,' as it is now called, seems to have as little affinity with the snow-flakes which fall so gently upon the bosom of the *névé*, as the mighty Amazon with the rain-drop that scarce bends a blade of grass. And yet we shall find reason to believe that the glacier is the drainage of a snow-field, just as the river is the drainage of a watered country.

In fact, the glacier is a river of ice, and the *névé* is its source. What is the crackling, and rushing, and groaning one hears all

day upon a glacier?—It is the noise of the ice-torrent. What are the long lines of masses of rock of all sizes, from mere splinters, to huge blocks as big as a house, which one sees scattered along the flanks of the glacier, and ranged in the middle wherever two glaciers have joined into one?—These are the sticks and straws which are being floated down by the ice-river. In fact, the same process is going on in the walls of the glacier valleys, as in all other rocks which are exposed to great alternations of temperature and moisture. Masses, constantly being split off, fall down; in an ordinary valley they would accumulate at the foot of its cliffs, and if the rock at any particular point were being more rapidly destroyed than elsewhere, it would produce a great conical heap or "talus"—such as every Alpine traveller must have constantly remarked. But where the fragments fall upon a glacier, they are constantly carried down with the flowing mass; and thus, instead of forming heaps, they are arranged in those long, linear aggregations known as lateral and medial "moraines."

There are multitudes of proofs, direct and indirect, that the glaciers really do move, as we have assumed them to do. M. Hugi* built, in the year 1827, a very solid hut upon the glacier of the Lower Aar, just below the confluence of the Lauter and Finster Aarhorn glaciers, and 1680 feet from a promontory of rock known as the "Abschwung." In the year 1836 this hut was 4384 feet further down the valley. Professor Forbes, in his Thirteenth Letter on Glaciers, gives an interesting account of a knapsack lost by a guide, who fell into a "crevasse" (as the great chasms, which are often observed in glaciers, are locally termed) in the Glacier of Talefre, and which was recovered, ten years afterwards, 4300 feet lower down, on the Glacier de Lechaud.

But it is needless to dwell upon these cases, since it is now well established by accurate theodolitic measurements, that every glacier is moving slowly and evenly onwards, at a rate not greater, in any case yet observed, than 52·1 inches a day,† and usually very much less. No part of the great glacier of the Aar, for instance, appears to have more than a fifth of this velocity.

The rate of movement of all parts of a glacier is by no means the same. Sometimes the commencement and the end appear to move somewhat faster than the middle, sometimes the lower end moves more swiftly than the upper—differences which doubtless proceed from changes in the form of the valley, and consequent variations in the amount of resistance at different points. But there is a constant and most important discrepancy between the rate of motion of the central part of the glacier and that of the sides; the former being invariably found to be moving onward much more quickly

* "Ueber das Wesen der Gletscher," p. 78-9.

† "Glacier des Bois." Maximum in July.—*Forbes.*

than the latter. The same relation appears to hold good between the superficial and the deeper portions, so that the motion of a glacier resembles that of a flowing body. It matters not whether we choose a limpid fluid like water, or a viscous fluid like tar: if we allow either to flow, and then measure the velocity of its different parts, we shall discern that the lateral and inferior portions are retarded by friction against the walls of the channel, and hence that the top flows faster than the bottom, the middle than the sides. It is a fact of which every Thames waterman is aware, and which he takes advantage of, by keeping close in-shore when he has to pull against the tide, and taking the mid-stream when the current is with him.

Temperature has something to do with the motion of glaciers, which is found to be far less rapid in winter than in summer; and warm damp weather appears to afford the most favourable of all conditions for the flow of the ice-current. We have said the glacier moves evenly, without starts or jumps; and so much is this the case, that if a row of stakes be fixed in holes in a perfectly straight line, transverse to the axis of a glacier, that row will, in course of time, take in the shape of a regular and beautiful curve, with its convexity directed down the valley, just as a transverse line of particles of straw, floating on the surface of a trough full of water, will become curved towards the end at which we allow the water to flow out.

Another remarkable point of resemblance between a glacier and a fluid mass, lies in the manner in which the former fits itself into dilatations of its valley, and squeezes through narrow ravines. In the Glacier de Talefre, on the range of Mont Blanc, for instance, Professor Forbes tells us that the diameter of the great basin of the glacier is at least six times as great as the outlet through which it eventually squeezes itself; and when the diameter of the valley of a glacier varies at intervals, all parts are found to be equally full of ice. One more fact of great significance respecting the relative movement of different parts of a glacier remains to be noticed. Any two points on a given line, parallel with the direction of motion of a glacier, remain at the same, or but a slightly varying distance from one another, throughout their whole course. Hence, as the glacier is constantly moving onwards, it follows that a constant addition must take place at its upper end, or where it passes into the *névé*. The *névé* must, therefore, be regarded as the source of the glacier, and the glacier ice is metamorphosed *névé:* but to understand the nature of this metamorphosis, we must have a clear conception of the difference of the two.

Taking up a handful of *névé*, such as may be seen, for instance, in the great snow-field eleven thousand feet and more above the level of the sea, on which one emerges after surmounting the

"Weissthor" near Monte Rosa, it presents nothing more striking than has been described; but when a great section of its mass is visible, such as is, or was, to be seen from this spot, on the flanks of the Cima di Jazi, it is observed to be distinctly arranged in horizontal strata. Competent observers, such as the Messrs. Schlagintweit, who have had the rare opportunity of examining closely the structure of sections of the *névé*, affirm that these strata are beds of snow, separated by layers of ice; and that in the deeper parts of such sections, the snowy beds became narrower and the icy layers closer, until at length the *névé* assumed very much the characters which we shall describe immediately, as peculiar to the substance of a glacier. The interlamination with ice and the gradual change in the structure of the lower layers of the *névé*, are generally, and very reasonably, ascribed to superficial meltings and freezings of successive falls of snow, to the gradual percolation of the mass with water draining from its surface, and to the pressure exerted by the superincumbent upon the lower strata.

A minute examination of the structure of a glacier, on the other hand, reveals some strikingly marked peculiarities. In the first place, the surface of a glacier is not at all like that of a frozen pond. If it were, the attempt to traverse those narrow ridges, not more than a foot or two wide, with a yawning crevasse on each side, on which any one with ordinary nerve may walk with perfect ease and security, would be madness: nor would it be possible to climb steep places by cutting steps with a hatchet, as one constantly has to do. In fact, under ordinary circumstances, the surface of a glacier is no more slippery than a gravel walk, and for much the same reason,—for its upper layer, if narrowly examined, will be found to be composed of little masses of ice, which might be called ice-pebbles, except that instead of being rounded, they are very irregular. Their irregularities fit into one another accurately, so that they are separated only by minute irregular fissures, and thus form a mass at once solid and yielding (like what is known as flexible sandstone), which yields with ease to the heel, and flies into fragments under the hatchet.

Now, this granular degeneration, which is wholly superficial, must not be confounded with another much more important character of glacier ice, its "veined," or "banded," or, as the authors of the "Observations on Glaciers" occasionally term it —"lenticular" structure.

It is perfectly marvellous that this structure should have escaped the attention of the early observers of glaciers, for nothing can be more striking than the aspect which its presence confers, especially when one chances to have the opportunity of viewing a great thickness of glacier ice as a transparent object. The writer will not soon forget the magical effect of the roof of the cave in the

Allalein glacier—whence the Saas Visp runs—viewed in this manner by the direct rays of the forenoon sun. Wherever the unaltered substance of a glacier is visible, exquisite clear blue veins thinning out on all sides, and hence having a general lenticular form, run nearly parallel with one another through a white matrix. The veins vary in size, from a fraction of an inch either way, to many feet in length and many inches in thickness, and they may be separated by very variable thicknesses of the white ground. Sometimes they are far apart; sometimes so close and so much elongated, that a mass of the glacier-substance may be split up, like a block of slate, along the less resisting planes of the white ice.

Veins and matrix are one and the same substance—ice;—the former owing their transparency and clearness to the comparative absence of the air-bubbles, which convert the white ice into little more than a honeycomb. Attempts have been made to show, by the infiltration of coloured liquids into glacier-ice, that the blue veins are traversed by multitudinous capillary fissures. The accounts of these experiments, and the figures which accompany them, seem to us, however, to prove too much, for they represent the blue veins as coloured evenly throughout. To produce this effect by imbibition of a coloured fluid, the blue vein must be a complete sponge-work,—and this it assuredly is not, all observers testifying that it is harder, firmer, and more compact than the white ice. Were its transparency the effect of the infiltration of water into the multitudinous capillary fissures which it is supposed to contain, the water ought to run out in a hand-specimen, and being replaced by air, the blue veins should soon appear white. But this is not the case; hand-specimens of glacier ice retaining their veins so long as they are unmelted. On the other hand, as the hypothetical water in the hypothetical capillary fissures of the blue veins may thus be shown, not to flow *out* readily, if at all, how is it that the coloured fluid can flow *in* so readily as the experimenter would have us believe? Until much more cogent proof is offered, we shall venture to doubt the existence of fissures filled with water in the blue veins themselves, and we must confess that, at present, the conclusion which is ordinarily drawn from infiltration experiments—that the great mass of a glacier is infiltrated with water like a sponge, seems to us to be very insufficiently based.

The direction and mode of occurrence of the veined structure are highly important elements in the theory of glaciers. Wherever the glacier is subjected to great pressure, there the veined structure appears, and, as a general rule, the planes of the "veins" or "lenses" of blue ice are perpendicular to the direction of pressure.

Once formed, the veins will obey the same laws of motion as other parts of a glacier; and hence, those which are originally developed in the upper part of a glacier nearly perpendicular to its axis—*i.e.* at right angles to the direction of the pressure which forces the glacier along its gorge—must necessarily become bent into great curves, both transversely and vertically, as they flow downwards. Observation confirms this deduction. The veins in the upper part of a glacier run more or less directly across it; and, if traced into its depths, are nearly vertical. In the lower part, on the other hand, the veins are, when viewed on the surface, transverse only in the middle of the glacier; at the sides they become more and more oblique, until at length they are nearly parallel to its axis. In a vertical section of the lower part of a glacier the veins, instead of being vertical, incline more and more forwards above, so that at length their planes are horizontal, or even slope downwards and forwards. This change of direction from above downwards, is what Professor Forbes terms the "frontal dip" of the veins. Apart from all other causes in operation, this "frontal dip," like the horizontal curvature, would result from the small velocity of the sides and bottom as compared with that of the centre of a glacier.

Inasmuch as a glacier sooner or later descends below the level of perpetual snow—passes, that is, into a temperature at which ice cannot exist, it is like a candle thrust into a fire, and eventually reaches a point at which its lower end melts as fast as it travels forward. Here, consequently, it stops, and here all the burden of moraines and isolated blocks, which have not unfrequently travelled many miles from the spot at which they fell—is deposited in a great heap, which receives the name of the "terminal moraine." It is the bar of the ice river. But as the precise elevation at which the glacier terminates depends upon the proportion between its rate of motion and its rate of melting, no similarity can be expected, in this respect, between different glaciers. It can be easily understood, in fact, that even the same glacier must undergo great variations, according to the quantity of snow which accumulates in the region where it takes its origin, and the temperature of the locality in which it ends. A series of wet, cool, summers and snowy winters will add to the sources and diminish the waste of a glacier, so that its end will advance; while hot, dry, summers and scanty snow-falls will produce the precisely contrary effect, causing the end of the glacier to retreat. Local variations of climate are at this moment causing some of the Swiss glaciers to move forward, and others to retrograde; but this apparent motion of the end of a glacier must not be confounded with its real motion, which may remain the same, whether its extremity advances or retreats.

These are the principal phenomena of the glacier world—those

which are essential, and which have to be accounted for by all theories of glaciers; but there are among the collateral and non-essential features, two of so much interest that we must shortly advert to them.

These are "crevasses" and "dirt-bands." The former are huge clefts or fractures, which appear to be developed whenever the substance of a glacier is subjected to great tension, whether by inequality of the flow of its different parts, or by having to accommodate itself to sudden declivities of its floor. The direction of these crevasses is, of course, perpendicular to the stretching force; and hence, when they arise from the tearing of the glacier by the different motion of its parts, they are directed from the sides inwards and upwards, and therefore cut the planes of the veined structure at a great angle. The "dirt-bands" are visible upon most glaciers when viewed from a height, whence they look like curved lines of discoloration, taking the form of loops with their convexities directed towards the mouth of the glacier valley. Examined closely, each discolored band appears to arise from an accumulation of small pebbles, dirt, and sand, upon these parts of the glacier, while the intermediate spaces remain clean.

Such are some of the most important facts in what may be termed the natural history of glaciers, and which may now be regarded as fairly established by a large mass of concurrent testimony. So far men of science are unanimous; but if we put the question, how are these phenomena to be accounted for? we have as many opinions as philosophers, and indeed more, for some of the philosophers have entertained more than one theory.

De Saussure thought that glaciers simply slipped along their beds, impelled by gravity; Charpentier's famous dilatation theory rests on the supposition that they are impelled by the expansion which the water they contain undergoes in freezing; Bishop Rendu imagined them to flow, like lava; and M. Hugi appears to consider that they are alive, and enters into disquisitions on their respiratory processes!

Among all the different theories, however, that propounded by the distinguished Professor of Natural Philosophy in the University of Edinburgh has swallowed up the rest, as the rod of Moses, in its ophidian condition, swallowed up all the rods of the Egyptians. Nor is this wonderful, when we remember that from the time of De Saussure to the year 1842, Professor J. Forbes was the only man who brought to the investigation of the great problems presented by glaciers, the requisite preliminary knowledge of physical science, and the still more necessary physical cast of intellect. Whatever view we may take of the obligations under which the eminent author of the "Viscous Theory" lies to his predecessors or to his contemporaries, it must be admitted that

the date of the publication of his letters and travels will always form an epoch in the history of the glacier question. Nor will the ultimate verdict of science, as to the truth or falsehood of some parts of the so-called viscous theory affect the claims of its propounder to the admiration ever yielded to genius, energy, and eloquence.

Even apart from these broad considerations, we must not forget that the two great facts which form the basis whence all possible theories of glaciers must start, were established and placed in their true light by Professor Forbes. It may be true that Professor Guyot discovered and described the veined structure of glacier ice in the year 1838, but a careful consideration and weighing of the documentary evidence must, we think, convince every impartial judge, that not only did Professor Forbes independently rediscover this structure, but that not even its original discoverer, and still less M. Agassiz—who appears to have forgotten all about the matter until his attention was called to it by Professor Forbes—had any clear conception of the real value and bearing of the fact.

So again, it is true that M. Rendu and others had compared the movement of a glacier to that of a more or less viscous fluid, before Professor Forbes propounded his theory; and it seems to be a fact that in 1841, either during or immediately after the visit of Professor Forbes to the glacier of the Aar in company with M. Agassiz, the latter gentleman had made every arrangement for ascertaining the true rate of motion of the different parts of the glacier.

"Pendant notre séjour sur le glacier en 1841, M. Agassiz détermina de concert avec M. Escher, au moyen de l'équerre d'arpenteur, la position de cinq blocs, en vue d'apprendre à connaître les rapports qui existent entre les differentes parties du glacier quant à leur mouvement, et de s'assurer si, comme on le croyait généralement les parties inferieures du glacier marchent réellement plus vite que les parties supérieures, ou bien si l'inverse à lieu. Il importait également de s'assurer pas l'expérience si les bords ont un mouvement plus accéléré que le centre ou vice versâ. M. Agassiz avait aligné dans ce but à travers le glacier de l'Aar à l'hauteur de la cabane Hugi, c'est a dire à environ 2000 pieds au dessous de l'Hôtel des Neuchâtelois, une série de pieux, rapportés à des points fixes des bords de la vallée et plantés à une profondeur de dix pieds dans la glace. C'était donc en 1842, que nous pouvions espérer d'obtenir les premiers résultats comparatifs sur le mouvement des différentes parties du glacier dans le cours d'une année. . . . . Voici d'abord les résultats de la série de pieux alignés à travers le glacier, mesurés le 20 juillet, 1842. . . . . Il résulte de là que la marche des différentes parties du glacier présente une courbe dont la convexité est tournée en bas."*

* "Compte Rendu des Recherches de M. Agassiz, &c.," par E. Desor, Bibl. Univ. de Genève. 1843.

From this statement it appears that in the autumn of 1841, M. Agassiz had taken all the steps for ascertaining experimentally the rate of motion of the different parts of a glacier, little dreaming that the results of these proceedings would be the overthrow of the hypothesis he then entertained, that the sides of a glacier move faster than the middle. But even the melancholy pleasure of refuting himself was denied to the Swiss *savan*. In science the race not unfrequently *is* to the swift; and, the northern philosopher having betaken himself to Switzerland in June, 1842, was enabled, by applying the delicate and accurate process of theodolitic measurement to the small daily movements of the glacier, to obtain in four days, the results for which M. Agassiz, with his comparatively rough procedure, had had to wait a twelvemonth. And hence, a whole fortnight before M. Agassiz inspected his line of stakes on the Aar glacier, namely, on the 4th of July, 1842, we find Professor Forbes writing, from the Mer de Glace, a letter to Professor Jameson, in which all the great laws of glacier movement are stated with accuracy and precision; and in the two memorable letters despatched from Chamouni and Zermatt, in the course of the ensuing six weeks, all the essential points of the viscous theory may be watched, as they developed themselves in the writer's mind out of these laws, combined with other facts. At the end of 1842, we may say the theory was fully formed; and though from that time to the present it has suffered rude assaults from more than one quarter, it has gone on waxing in strength, and finding greater favour in men's eyes, until, at present, many of its old opponents are converted into supporters; others are silenced, and the objections of the few who still dissent seem rather verbal than real.

That such should be the case, appears to us to be a remarkable exemplification of the necessity of distinguishing accurately between that part of a theory which is the simple expression of facts and that part of it which is the more or less hypothetical mode of accounting for those facts. Without doubt, two most important truths have been established, mainly by the labours of Professor Forbes, viz.:—

1. That the centre of a glacier, whose substance may be continuous throughout, nevertheless moves faster than the sides; and that, therefore, *so far as its motion is concerned*, it resembles a viscous fluid.

2. That glacier ice commonly presents that banded, veined, or lenticular structure which has been described.

Now, if the clear statement of these two facts is part of the "viscous theory"—then so far is that theory unassailable. They must be admitted by every person who examines a glacier; and

they are admitted at the present time, we believe, by all writers of authority. The greater the share that may be assigned to Professor Forbes in the discovery and clear enunciation of these truths, therefore, the more highly must we rate his merits; and his claims to our esteem on these grounds will remain the same, whatever the fate of the other points of the viscous theory—whether they take their place among the established verities of science, or whether they be doomed to make way for more just conceptions.

That the latter consummation is inevitable we firmly believe; and as we conceive it to be perfectly competent for every person who has carefully read Professor Forbes's eloquent "Travels" to follow the reasonings upon which our opinion is based, we feel no hesitation in discussing the question in these pages. If an appeal to the general reader on such matters is out of place, Professor Forbes must share the blame with us, for it is he who has given the general reader an interest in glaciers.

We propose, in the first place, to inquire whether Professor Forbes's hypotheses as to the physical condition of glacier ice, which permits it to move in the manner described, and as to the cause of the veined structure, are consistent with themselves and with the known qualities of ice; and having attempted to show that they are not, we shall endeavour to point out in what way these glacial phenomena may be deduced from the demonstrable properties of ordinary ice, and from the conditions to which it is exposed in a glacier.

By a natural transition, Professor Forbes, having established that a glacier moves after the manner of a viscous body, supposes that it is therefore viscous—that it is comparable to lava, to tar, to semi-fluid plaster of Paris, and that it is for this reason it flows down the inclined floor of its valley. But surely it is no very logical procedure to conclude, from the resemblance of two bodies in one particular, that they are therefore alike in all? Suppose we turn the argument another way, taking for this purpose a comparison frequently used by Professor Forbes himself. A glacier moves in the same way as the river Rhone flows, therefore it is a limpid fluid! Or, suppose we join the extremities of an elastic band to two points across the top of an inclined plane, and then attach weights to this band,—the central portions will gradually slide down the inclined plane—it will adapt itself to inequalities—its central parts will move faster than the lateral ones; in fact, its movement will resemble, in all obvious respects, that of a corresponding band in a viscous mass flowing down a like incline. But are we on this account to consider the band as viscous, or the viscous mass as elastic? Obviously not; and therefore it is, we think, sufficiently clear that the resemblance of the motion of

a glacier to that of a viscous body, does by no means prove that it is, in any other respect, to be called viscous.

But it is not difficult to cite Professor Forbes himself as a witness against the viscosity of glacier ice. No two properties can be well more entirely opposed than viscosity and cleavability; and yet, though he nowhere seems to be conscious of the fact, Professor Forbes does virtually suppose that glacier ice is, originally, and before the veined structure is impressed upon it, eminently cleavable; that a mass of such ice will, under pressure, break up into plates with parallel sides, and not more than a quarter of an inch thick, whose planes coincide with the direction of pressure. Comparing lava with glacier ice, Professor Forbes writes,—

"I have never, however, observed a structure in the *interior* of the lava, except that parallel with the sides and bottom of the canal in which it moves; nothing, in short, corresponding to the frontal dip of glaciers. But this is quite natural and conformable to the very different constitution of a glacier; and, in particular, it corresponds to the fact so often urged as a difficulty to the semi-fluid theory of glaciers —namely, the want of ductility or tenacity of their parts. It is that fragility precisely, which, yielding to the hydrostatic pressure of the unfrozen water contained in the countless capillaries of the glacier, produces the ***crushing action*** which shoves the ice over its neighbour particles and leaves a bruise, within which the infiltrated water freezes, and forms a blue vein. In the lava, on the other hand, where the tenacity is great, the discontinuity, if produced at all, is soldered up by the plasticity of its parts, whose small crystalline structure further tends to obliterate the separation."—*Sixth Letter on Glaciers.* 1844.

In his "Illustrations of the Viscous Theory," Part II., Professor Forbes describes his observations on the movement of a comparatively small portion of the Mer de Glace. In this place, the veined structure was remarkably developed, and Professor Forbes states,—

"This structure must *have been produced on the spot.* . . . . . Let it then be recollected that the structure is produced here under our eyes, on the very spot where the experiments about to be detailed were made, and that the structure in question produced a vertical slaty cleavage so distinct that the ice, broken into hand-specimens, may be split parallel to it, like any slate rock, and that the fine hard laminæ projecting vertically after the glacier has been washed by rain, permitted the blade of a knife to be thrust between them to a depth of several inches, although they are rarely more than a quarter of an inch thick."—p. 164.

At page 174 of the same memoir, Professor Forbes goes on to say,—

"Nothing approaching to an open fissure occurred in any part of

the space of ice under consideration. . . . . The veined structure was developed in every part of the section; in some parts more admirably than in others, as near the seventh mark, and between the fortieth and forty-fifth. These countless blue veins may be considered as so many flaws, or partial solutions of continuity, existing or having existed: they are almost perfectly straight, and (as will be shown immediately) exactly in the direction in which the relative motion of the parts of the ice demonstrated by these experiments takes place. It would require strong evidence to convince us that these veins are not occasioned by, and the mechanism of, the plastic motion of the ice."

Putting all these statements into a simple form, they come to this. Any portion, say a cubic foot, of glacier ice, which is not fissured, and contains none, or but very few, veins, may by unequal pressure, and a consequent tendency to differential motion conferred upon its parts, be made to tear or split into a great number of planes, parallel with one another and with the direction of pressure, into plates so thin as to be only one quarter of an inch apart; and the plates thus produced become so widely separated as to fill with water, which then, being frozen in them, gives rise to the blue veins. But surely, if words are not to be taken in a non-natural sense—if we are not to have a Puseyite school of physics—the term "viscous" can in no sense whatever be applied to a body which can in this way be made to cleave into large parallel plates a quarter of an inch thick!

It seems strange that a philosopher of Professor Forbes's acuteness should not have felt these difficulties; and we think that it can be shown that he has been partially aware of them—that having by implication denied the viscosity of ice, he has endeavoured to account for the phenomena of the motion of a glacier by introducing additional suppositions, which are not always consistent with one another.

Let us consider, for instance, what he says in the third part of the "Illustrations," which, having been published in the "Philosophical Transactions," may be fairly regarded as the most severe and accurate expression of his views.

"Were a glacier composed of a solid crystalline cake of ice, fitted or moulded to the mountain bed, which it occupies like a lake tranquilly frozen, it would seem impossible to admit such a flexibility or yielding of its parts as should permit any comparison to a fluid or semifluid body transmitting pressure horizontally, and whose parts might change their mutual position, so that one part should be pushed out whilst another remained behind. But we know, in point of fact, that a glacier is a body very differently constituted. It is clearly proved by the experiments of Agassiz and others, that the glacier is not a mass of ice, but of ice and water; the latter percolating through the crevices of the former, to all depths of the glacier; and as it is a matter of ocular demonstration that these crevices, though very mi-

nute, communicate freely with one another to great distances, the water with which they are filled communicates force also to great distances, and exercises a tremendous hydrostatic pressure, to move onwards, in the direction in which gravity urges it, the vast porous, crackling mass of seemingly rigid ice in which it is, as it were, bound up. Now, the water in the crevices does not constitute the glacier, but only the principal vehicle of the force which acts on it; and the slow irresistible energy with which the icy mass moves onwards from hour to hour with a continuous march, bespeaks of itself the presence of a fluid pressure. But if the ice were not in some degree ductile, or plastic, this pressure could never produce any, the least, forward motion of the mass. The pressure in the capillaries of the glacier can only tend to separate one particle from another, and thus produce tension and compression within the body of the glacier itself, which yields, owing to its slightly ductile nature, in the direction of least resistance, retaining its continuity or recovering it by re-attachment, after its parts have suffered a bruise, according to the violence of the action to which it has been exposed."—p. 209.

From this passage it is clear that Professor Forbes does not suppose that ice possesses, on the large scale, a yieldingness or viscosity, which is undemonstrable only in small specimens,—which is the doctrine commonly maintained by those who imagine themselves his supporters. He conceives, on the contrary, that a glacier is a sort of ice-sponge, full of water; and he supposes the reticulations of this sponge to be "slightly ductile." But how is this ductility on the small scale to be reconciled to the extreme brittleness and frangibility which ice can be experimentally demonstrated to possess; which Professor Forbes expressly states it has; and which he implies it has, when he tells us that ice will break up, on pressure, into even plates a quarter of an inch thick? How is it conceivable that the parts of such a sponge-work should be made, by differential motion, to slide past one another, in such a way as to give rise to these regular plates? And, finally, how is Professor Forbes's statement at page 209, which we have quoted—"that if the ice were not in some degree ductile or plastic, the pressure could never produce any, the least, forward motion of the mass,"—to be brought into agreement with the following passage in page 208?

"The quality of plasticity or viscosity resulting from the union of a nearly perfect fluid with an imperfect solid, is seen in very numerous and familiar instances, as, for instance, in sand, which is itself devoid of any tenacity until its interstices have been saturated with just so much water as will cause it to flow; or in the still more familiar instance of water ice prepared for the table, in which the varying proportion of the solid and fluid ingredient gives to it every shade of consistency, from a brittle solid to a liquor, including suspended solid grains."

A simple experiment with one's spoon upon a water ice is surely sufficient to show that the production of motion by pressure in such a body is very easy; but this no more implies plasticity in the particles of the ice which it contains, than the like experiment on sand and water would prove the plasticity of silex. But after all, we are at a loss to understand what Professor Forbes's views of the nature of glacier ice really are, for he quotes, and apparently sanctions, in page 208 of the Illustrations, the statement contained in his "Travels," p. 367, ed. 1843, that "a glacier is not coherent ice, but a granular compound of ice and water." As a matter of fact, this assertion is incorrect, to say nothing of its entire inconsistency with what we have quoted from the next page of Professor Forbes's memoir.

What, then, becomes of the theory of the viscous nature of glacier ice, if we rigorously analyse the statements of its author? It absolutely eludes the grasp. Sometimes we are told that the mobility of the glacier depends on the plasticity of ice; sometimes Professor Forbes seems to believe it would move just as well if it were a mass of fragments united by, or suspended in, water; plasticity is denied to a large and continuous mass of ice, and is asserted to exist on the small scale; nevertheless, it cannot be demonstrated experimentally on a small scale; and if the ice can cleave under pressure, in the way Professor Forbes supposes it does when the blue bands are developed, it must be practically non-existent. Finally, it seems to us that Professor Forbes's definition in his "Reply to Mr. Hopkins," that "plasticity is a quality of glaciers without which they would remain stationary, or descend in avalanches," is simply begging the question, which is—What is that quality of ice which prevents glaciers from remaining stationary, or descending in avalanches?

We have next to consider the hypothesis as to the development of the blue bands, or veins. The theory of their formation, originally and for several years repeatedly advocated by Professor Forbes, is stated in a passage from the Sixth Letter on Glaciers, cited above. The authors of the "Observations on Glaciers" have endeavoured to prove that, upon Professor Forbes's own showing, and taking his own data, it is physically impossible the veins should be formed in the way supposed; but their exertions in this direction are rendered superfluous by the circumstance that Professor Forbes has renounced his own view in the following passage, contained in his Thirteenth Letter on Glaciers, read before the Royal Society of Edinburgh, Dec. 21, 1846:—

"I am satisfied then (and it is only after long doubt that I venture this confident expression) that the conversion of snow into ice is due to the effects of pressure upon the loose and porous structure of the former; that the very first effect is to annihilate the annual strata of

the *névé*, and that the most rapid glacification is effected by the kneading or working of the parts one upon another by the differential motions which the semifluid law of glacier progression occasions, and which also necessarily takes place under intense pressure.

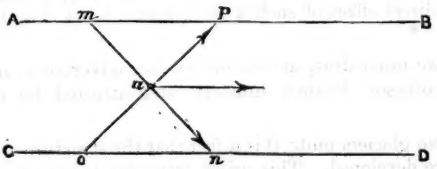
"The belief which I formerly (in common probably with most other persons) entertained, that snow could not pass into pellucid ice without being first melted and then frozen, was part of the chemical prejudice, that molecular actions cannot take place except in the liquid state—a prejudice now disappearing, as the subjoined note, on the very competent authority of M. Gay-Lussac, shows. The crystalline forces act on the snowy granules when brought into close contact by pressure, and the imprisoned air is then distributed in the direction of the lines of tearing, just as in the case of the banded lavas which have been so well described by Mr. Darwin. Bishop Rendu, whom I had the pleasure of visiting at Annecy, remarked a familiar circumstance which illustrates the same thing. We often see, in the coldest weather, that opaque snow is converted into translucent ice by the sliding of boys upon its surface; friction and pressure alone, without the slightest thaw, effect the change, which must take place still more readily in the glacier, where the mass is, during a great part of the year, kept on the very border of thawing by the ice-cold water which infiltrates it. In this condition, molecular attachment among the granules must be comparatively easy, and the opacity disappears in proportion as optical contact is attained. Most evidently also, the icy structure is first induced near the sides of the glacier, where the pressure and working of the interior of the ice, accompanied with intense friction, comes into play, and the multitudinous incipient fissures caused by the intense strain are reunited by the simple effects of time and cohesion.

"We are, therefore, relieved from the difficulty of accounting for the cold which would be necessary to freeze the infiltrated water which was at one time believed necessary to explain the conversion of the *névé* into proper ice. This would be liable to most of the objections urged against the dilatation theory."

We venture to think that, although the admission of some of the facts upon which Professor Forbes bases his new explanation of the veined structure is very important, the explanation itself is as essentially incorrect as its predecessor. Where the veined structure is well developed, the lenticular masses of clear solid ice are to be observed side by side, of all dimensions, from a fraction of an inch either way to many inches thick, and many feet long. How could such a structure be produced by the rubbing of the sides of fissures one against the other? And how again is it conceivable that these bands of ice, which, as Professor Forbes admits, are solid and unbroken, and stand out in ridges when the surface of the glacier melts, should be formed by the mere kneading and grinding of the surfaces of the masses of brittle ice? If the hypothesis were correct, ice must be viscous on the small scale, which we know it not to be.

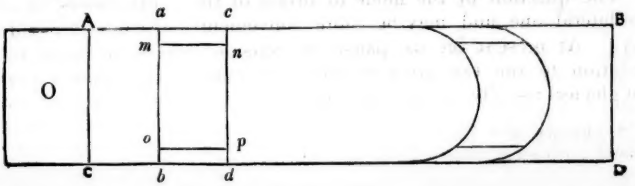
But it is useless to discuss this part of the question further, if it can be conclusively shown that a differential motion in the direction of the veins does not take place, between the particles of a body moving in the manner of a glacier; and hence that the "kneading" which is supposed to give rise to the blue veins cannot in reality occur. It will be remembered that the veins in the lateral portions of the glacier are directed more or less parallel to its length. Now Professor Forbes accounts for this direction by imagining that when a viscous mass flows, a "drag towards the centre" is exerted upon its lateral particles, and these, sliding over one another, give rise to the veins. On this point Professor Tyndall remarks:—

"With regard to the drag towards the centre, which is supposed to arise from the viscosity, and in which direction it is stated that 'filaments slide past each other,' it is by no means clear on mechanical grounds that such a drag exists. For the transfer of matter from the sides to the centre, in consequence of such a drag, must finally absorb the former, unless to make good the loss a motion in some other portion of the glacier from the centre to the sides, that is in a direction opposed to the theory, be established. Let the line A B, (Fig. 1) represent the centre of a glacier; C D its side, and *a* a point between both. Draw *m n*, *o p*, making equal angles with the centre and side.



In consequence of the quicker flow of the centre, the line *m n* tends to shorten itself, causing a *thrust* on the point *a*, which urges it towards the side C D; the line *o p* for the same reason tends to elongate itself, which produces a *drag* of the point *a* towards the centre. The point *a* is here solicited by two equal forces, and the resultant motion will be along the line A B, parallel to the length of the glacier. This result receives the most complete confirmation from observation, so that the drag towards the centre expresses only half the conditions of the problem.

To test the question on a small scale the following experiment was



made: A B C D, (Fig. 2) is a wooden trough, six feet long, and one foot wide. The end, A C, of the trough is elevated. O is a box, with a sluice front, containing fine mud, formed of a mixture of pipeclay and water. The mud was permitted to flow slowly through the trough. Two highly coloured straight lines *a b*, *c d*, were stamped on the mud transverse to the length of the trough, and two others, *m n*, *o p*, were drawn parallel to its length. Now, if filaments move past each other towards the centre, such a motion must be observed by its effect upon the longitudinal lines *m n*, *o p*. On permitting the mud to flow, the lines lower down presented the appearance shown in the figure; *m n* and *o p* moved parallel to the sides, and at the same distance from them from top to bottom; there was no evidence whatever of the supposed drag: the differential motion which existed was parallel to the length of the trough, as is proved by the distortion of the lines *a b*, *c d*, while every point in each of the longitudinal lines moved exactly as the theoretical deduction from Fig. 1 would lead us to expect. If then the cleaved structure were due to differential motion, we ought to expect it parallel to the sides, instead of oblique to them, as it actually exists in a glacier of the form typified by our wooden trough.

"Finally, with regard to the transverse lamination of the centre of the glacier, the theory now under consideration assumes, that in a mass supposed to be viscous, with an enormous thrust behind, and an enormous resistance in front, fissures varying from a fraction of an inch to several inches in width are formed at right angles to the direction in which the thrust is exerted. Surely, so far from producing such fissures, the direct effect of such a force would be to close them up if they existed."*

Finally, we must draw attention to a fact adverted to more than once by Professor Forbes himself, and attested by many observers:—

"When two glaciers unite, it is a fact that the structure immediately becomes more developed. This arises from the increased velocity, as well as friction, of each, due to lateral compression."—*Third Letter on Glaciers.* 1842.

But when two glaciers unite, the conjoined sides move as the centre of the glacier mass formed by their union. Hence, as, according to Professor Forbes, the differential motion between the central particles of a glacier is very small—not enough, under ordinary circumstances, to develope structure,—there ought to be no particular development of the veining under these circumstances,—which is the exact reverse of what really occurs.

The question of the mode of origin of the "dirt-bands" is a collateral one, and may be more conveniently discussed by and by. At present let us pause to consider where we stand in relation to the two great problems presented by the phenomena of glaciers:—Why does the glacier move in the manner of a more

* Abstract of a Lecture delivered at a Friday Evening Meeting of the Royal Institution, January 23rd, 1857, by Professor Tyndall.

or less fluid mass? Why does it present the veined, or banded, or lenticular structure?

We have endeavoured to redeem our pledge, and to show that the explanation of these phenomena offered by the viscous theory, is not only in contradiction with itself, but with known facts. That theory seems to us to be at best an enunciation of the fact of the *viscoid* motion of a glacier; it in nowise helps us to understand why a glacier should move in this manner, and yet remain a coherent mass. In other words, the viscous theory states truly enough that any vertical segment of the upper region of a glacier becomes bent in its descent, so as to be strongly curved downwards and forwards; but it does not attempt to reconcile the two seemingly contradictory facts—1. That from the known and demonstrable brittleness of ice, such a segment must, in the attempt to bend it to any such extent, break up into a thousand fragments. 2. That, nevertheless, the lower region of a glacier, if the inclination of its bed be even, may be as solid, and its structure as continuous, as the upper.

Professor Forbes has not, so far as we are aware, offered any direct explanation of this difficulty, but we are far from supposing him unaware of its existence. In fact, several of the passages we have quoted seem to indicate that the hypothesis of the viscosity of ice did not always fully satisfy the mind of its inventor; accessory agencies, such as the hydrostatic pressure of the water by which the glacier is supposed to be infiltrated, are called into play to account for the motion of the glacier; and to reconcile the small plasticity of the moving mass with the observed fact of its solidity, a most remarkable and sagacious anticipation is made.

The particles of the glacier which are supposed to have been separated by moving past one another, are imagined to "recover their continuity" by "re-attachment" (suprà, p. 431); and again, "incipient fissures, caused by the intense strain," are supposed to be "reunited by the simple effects of time and cohesion" (p. 433).

We term this a sagacious anticipation—pity it was no more! The abundant fruit which the investigation of nature has yielded to man, her minister and interpreter, within the last few generations, as compared with the barrenness of ancient speculation, depends mainly on the distinctive character of the modern as compared with the ancient philosophy,—that the ancient thought *for* nature, while the modern submits his thoughts *to* her; and we venture to think that Professor Forbes fell into the ancient track, and consequently missed the reward of the modern, when, instead of inquiring experimentally whether disjoined masses of ice really possess any power of "re-uniting," or "recovering their continuity by re-attachment," he contented himself with suppositions as to the effects of "time and cohesion."

Nevertheless, here was a case eminently fit for experimental investigation; and we will again borrow Professor Tyndall's words, to describe the results which his experiments on this subject have developed.

It has never been imagined that the bendings and contortions, and other evidences of apparent viscosity exhibited by glaciers, could be made manifest on hand-specimens of ice. But this was shown by the speaker to be experimentally possible. Moulds of various forms were hollowed out in box-wood, and pieces of ice were placed in these moulds and subjected to pressure. In this way spheres of ice were flattened into cakes, and cakes formed into transparent lenses. A straight bar of ice, six inches long, was passed through a series of moulds augmenting in curvature, and was finally placed before the audience, bent into a semi-ring. A small block of ice was placed in a hemispherical cavity, and was pressed upon by a hemispherical protuberance not large enough to fill the cavity; the ice yielded and filled the space between both, thus forming itself into a transparent cup. In short, it was shown that every observation made upon glaciers, and adduced by writers on the subject in proof of the viscosity of ice, is capable of perfect imitation with hand specimens of this substance.

"These experiments, then, demonstrate a capacity on the part of small masses of ice, which has hitherto been denied to them. They prove, to all appearance, that the substance is even much more plastic than it was ever imagined to be by the founder of the viscous theory. But the real germ from which these results have sprung, was to be found in a lecture given at the Royal Institution, in June, 1850, and reported in the *Athenæum* and *Literary Gazette* for that year. Mr. Faraday then showed, that when two pieces of ice, at a temperature of 32° Fahr., are placed in contact with each other, they freeze together, by the conversion of the film of moisture between them into ice. The case of a snowball was referred to as a familiar illustration of the principle. When the snow is below 32°, and therefore *dry*, it will not cohere, whereas, when it is in a thawing condition, it can be squeezed into a hard mass. During one of the hottest days of last July, when the thermometer was upwards of 100° Fahr. in the sun, and more than 80° in the shade, the speaker observed a number of blocks of ice, which had been placed loosely in a heap, frozen together at their places of contact; and he afterwards caused them to freeze together under water as hot as the hand could bear. Facts like these suggested the thought, that if a piece of ice—a straight prism, for example—were placed in a bent mould and subjected to pressure, it would break, but that the force would also bring its ruptured surfaces into contact, and thus the continuity of the mass might be re-established. Experiment, as we have seen, completely confirmed this surmise: the ice passed from a continuous straight bar to a continuous bent one, the transition being effected, not by a viscous movement of the particles, but *through fracture and regelation.*

"All the phenomena of motion, on which the idea of viscosity has been based, are brought by such experiments as the above into har-

mony with the demonstrable properties of ice. In virtue of this property, the glacier accommodates itself to its bed while preserving its general continuity, crevasses are closed up, and the broken ice of a cascade, such as that of the Talèfre, or the Rhone, is recompacted to a solid continuous mass. But if the glacier accomplish its movement in virtue of the incessant fracture and regelation of its parts, such a process will be accompanied by a crackling noise, corresponding in intensity to the nature of the motion, and which would be absent if the motion were that of a viscous body. It is well known that such noises are heard, from the rudest crashing and quaking, up to the lowest decrepitation, and they thus receive a satisfactory explanation."*

Thus every phenomenon presented by the viscoid motion of a glacier may be explained without a single hypothetical assumption. We need do no violence to our ordinary, and perfectly

* "It is manifest that the continuity of the fractured ice cannot be completely and immediately restored after rupture. It is not the *same* surfaces that are regelated, and hence the coincidence of the surfaces cannot be perfect. They will enclose for a time *capillary fissures*, and thus the above theory accounts satisfactorily for the known structure of glacier ice. I have recently made the following experiments bearing upon this point. A piece of ordinary ice was taken, and a cavity hollowed in it was filled with a strong infusion of cochineal; the ice was perfectly impervious to the liquid, which remained in it for half an hour without penetrating it in the slightest degree. A piece of the same ice was subjected to a gradually increasing pressure. Flashes of light were seen to issue from it at intervals, indicating the rupture of optical continuity, while a low, and in some instances almost musical crackling was at the same time heard. Relieved from the pressure, the ice remained continuous; but a cavity being formed and the infusion placed within it, the coloured liquid immediately diffused itself through the capillary fissures, producing an appearance accurately resembling the drawings illustrative of the infiltration experiments of M. Agassiz upon the glacier of the Aar. This fissured structure, which is inconsistent with the idea of viscosity, is thus shown to be the natural result of the pressures exerted upon the non-viscous and brittle mass of the glacier.

"To account for a '*bruit de crépitation*' heard upon the Aar glacier, M. Agassiz refers to an observation which might be made on a fine day in summer, and which would show the air within the glacier ice escaping from its surface. M. Agassiz supposes the ice to be diathermanous; that the sunbeams therefore get through it and heat the air-bubbles it encloses, which by their expansion rupture the ice, and produce the crepitation referred to. The observation is an interesting one, whatever difficulty we may find in accepting the explanation. An experiment made on the 31st of January, appears to me to account for the observation in a satisfactory manner. Snow having fallen, I was early at work compressing it; and on removing a plate of the compacted mass from the press, I noticed, as the ice melted, a sparkling motion of the surface. To imitate the action of the sun, an iron spatula was heated, and on bringing it near to the compressed snow, the jumping of the surface caused by the issue of the air through the film of water which covered it, was greatly augmented. On removing the spatula, the motion subsided. To a similar action on the part of the sun, which melts the surface of the glacier, and thus liberates the air bubbles with which it is filled, the observation of M. Agassiz is in all probability to be referred."—J. T.

just, conception, that ice is an eminently brittle body, as little viscous as any substance can well be imagined to be; on the contrary, the power of regelation once demonstrated, the brittleness of its substance becomes an essential element in the motion of a glacier,—nay, the crackling voice of the glacier—a groaning protest against the viscous hypothesis, must be regarded as its grumbling assent,—

> "Unwilling I my lips unclose—
> Leave, oh leave me to repose"—

to the theory of regelation.

Professor Forbes's later explanation of the veined structure appears to us to be another shot from a strong archer, which, from the same cause, has unfortunately just missed the white. The first essay which Professor Forbes ever wrote (so far as we are aware) in connexion with glaciers (that "On a Remarkable Structure observed in the Ice of Glaciers"—Dec. 1841) was on the veined structure, and with an intuition of the bearings of the case, which, it is to be regretted, he did not follow further, Professor Forbes writes:—

> "The whole phenomenon has a good deal the air of being a structure induced *perpendicularly to the lines of greatest pressure*, though I do not assert that the statement is general."

And he subsequently draws a close and just parallel between these phenomena and those of slaty cleavage.

How the author of the viscous theory has diverged from his first supposition, and has substituted "differential motion in the plane of the structure" for pressure perpendicular to it, we have seen; and yet we venture to think it may be proved that the plane of the structure always *is* perpendicular to the direction of greatest pressure, and that the veined structure is nothing more than a case of the law of the production of cleavage in directions perpendicular to pressure, which has been fully developed by Professor Tyndall. But this law will be made plainer by citing some special cases:—A cake of freshly-melted wax, when resolidified, will not yield in one direction rather than another. It may be cut in any plane with a knife, but it cannot be split up into plates. Submit this cake of wax to pressure, however, it matters not in what direction, and it will then be found, if the knife be applied in a plane perpendicular to that of the pressure, that it will cleave like mica or gypsum. Ice itself, if submitted to pressure in a similar manner, may be made to exhibit a well-marked cleavage; and finely-powdered slate may even be caused to resume the slaty cleavage which the rock whence it is derived possessed: nay, it is possible that any solid body whatever, which is not absolutely homogeneous, may be made by pressure to become more or less cleavable in a direction at right angles to

that of the pressure. The field of application of this law is therefore very wide. Whether the subject of pressure be butter or rock, it seems to hold good; and the lamination of slate and gneiss is a phenomenon of the same order as the flakiness of piecrust. Apply the law to the glacier, and the veined structure is no longer a mystery or a difficulty,—in truth, the only puzzle would be, if there were nothing of the kind. Admit that the *névé* is not homogeneous, which is unquestionable,—admit that in its passage into the glacier and, as glacier ice, along its valley, it is submitted to intense pressure, which is allowed on all hands,—admit that the direction of the veined structure is always approximatively at right angles to the direction of pressure—a fact which is stated, as we have seen, by Professor Forbes, and which is otherwise established by the observations of all who have carefully investigated glaciers; and then the conclusion of the authors of the "Observations on Glaciers," as stated in the following extract from the abstract of their Memoir, seems inevitable:—

"An attempt is next made to apply the theory of slaty cleavage, propounded by one of the authors, to the laminated structure of glacier ice. It is shown that this lamination, like that of slate rock, is always approximately at right angles to the direction of maximum pressure;—that local circumstances which give rise to a violent thrust, produce at the same time a highly developed lamination. When two confluent glaciers unite to form a single trunk, the effect of their mutual thrust is, to develope the veined structure along their line of junction. This is illustrated in the case of the Aar and other glaciers; and experiments are described which show the mechanical condition of such glaciers, and that the veined structure of the ice, which sometimes rises to a case of "true cleavage," occurs at the precise places where the compression theory would lead one to expect it. The lenticular structure before referred to, the obliquity of the veins to the sides of the glacier, the transverse lamination at the centre, the relation of the blue bands to the crevasses, are all in perfect harmony with this theory. Indeed, unless we suppose the ice of glaciers to be perfectly homogeneous, mechanically speaking, we must infer that under pressure some portions will be rendered more compact than others, and the veined structure is the natural consequence."*

* Since the presentation of the paper, I have tried to reproduce the veined structure on a small scale by compressing snow. In some cases the section of the mass perpendicular to the surfaces on which the pressure was exerted, exhibited in a feeble but distinct manner an appearance the same in kind as that of the veined structure of the glacier ice; stripes more transparent than the surrounding ice were observed at right angles to the direction of pressure. I have also succeeded in impressing upon a perfectly transparent prism of ice a cleavage which certainly surpassed my expectations. The cleavage, as in the case of the glacier and of slate rock, is perpendicular to the direction of pressure. On placing a specimen of the squeezed mass before a highly competent judge, he at first imagined it to be a piece of gypsum. The full details

The artificial conversion of the snow of the *névé* into ice, distinguishable only by its groups of flat air-bubbles from ordinary ice, has already been effected by the Messrs. Schlagintweit; and the observations of these travellers upon the constitution of the walls of the deep crevasses which occur at the junction of the *névé* with the glacier, in the Leiter-gletscher, seem to show that the weight of the superincumbent mass supplies sufficient pressure to convert the lower part of the *névé*—already rendered heterogeneous by partial superficial meltings—into a laminated mass indistinguishable from true glacier ice. Professor Forbes's observations on the Glacier du Geant, however, seem to have led him to a contrary conclusion.

"According to the best observations which I could make, the stratified appearance of the *névé* disappeared at a depth, inconsiderable, compared with the vast vertical sections there exposed; and the interior of the mass was *granular, and without structure or bands of any kind.*"—*Thirteenth Letter on Glaciers.*

To the theory that pressure is the cause of the veined structure, it is obviously a matter of indifference which of these statements is correct; and even were a veined structure developed in the depths of the *névé*, it is by no means certain that this structure is not broken up and destroyed to give place to a new one in correspondence with the new directions of pressure to which the icy mass is subjected as it travels along the glacier gorge.

The explanation of the "dirt-bands" is not directly dependent upon the views which may be held on the two questions which we have so fully discussed, and we have therefore reserved it for separate consideration. The doctrine at present held by Professor Forbes upon this subject is contained in the following extracts from his work on "Norway and its Glaciers":—

"By *dirt-bands* we denote bands of cellular or friable ice, in which mud and stony fragments find a lodging, and thus faintly discolour the surface of the glacier in the same wave-like form as the ridges and furrows just mentioned, with which they are so far identical that they are found constantly together,—so that the wrinkles are visible at a

of these experiments shall be communicated in due time to the Royal Society. The case, then, as regards slaty cleavage and the structure of glacier ice, stands thus:—The testimony of independent observers proves that they are both laminated at right angles to the direction of pressure; and the question occurs—Is the pressure sufficient to produce the cleavage? Experiment replies in the affirmative. I have reduced slate rock to an almost impalpable powder, and reproduced from it the lamination by pressure. In the glacier we find equally the cleaved structure associated with pressure, and the above experiments prove the sufficiency of the pressure to produce the structure. By combining the conditions of Nature, we have produced her results; and it may perhaps be questioned whether a theory is capable of more convincing proof than that thus furnished.—J. T.

distance, mainly by the discoloration which the dirt-bands occasion. Accordingly, the latter were first observed by me at Chamouni in 1842; the former in the following year. I am not prepared to affirm that the explanation of this curious phenomenon is clearly made out, but I have elsewhere endeavoured to show that it certainly depends upon the laws of the motion of the glacier, and on the peculiar consistency of the ice of which glaciers are composed."—*Norway and its Glaciers*, p. 163. 1853.

"The slope in the middle region of the glacier is $7\frac{1}{2}°$; and I had little difficulty throughout the greater part of its length in noting the alternations of compact and veined ice, which give rise to the dirt-bands."—*Ib.*, p. 166.

The intervals of the bands Professor Forbes considers to represent the annual growth of the glacier.

We have not been able to notice such an alternation of what Professor Forbes terms here compact and veined ice, or what he elsewhere calls hard and porous ice, as is here described, in any glacier which has come under our observation. That a glacier is sometimes, if not always, composed of alternating layers, which so far differ, as to present a different aspect to the eye, is sufficiently obvious in such vertical sections as are presented by the Allalein glacier, in the valley of Saas; but no one has yet demonstrated, by precise observations, any difference of structure corresponding with the outcropping edges of such successive strata, on the surface of a glacier. We confess we do not understand the antithesis of "compact" and "veined" in the preceding extract, the veined ice of a glacier being, so far as we have seen, eminently compact. And we might refer to Professor Forbes's own writings (suprà, p. 430) for confirmation of our statement. In point of fact, according to the authors of the "Observations on Glaciers," the dirt-bands can be perfectly well accounted for without recourse to the supposition of a peculiarity of structure in those parts of the glacier in which they rest.

"The dirt scattered by avalanches and winds over the upper regions of a glacier is redistributed by the passage of a glacier down a cascade, where the ice is shattered and the dirt broken up into detached patches. On reaching the bottom, where the force becomes one of compression, the patches of dirt are squeezed longitudinally, and drawn out laterally, being thus converted into stripes of discoloration, which, owing to the speedier motion of the centre of the glacier, are convex towards its lower extremity."

It may be shown experimentally that discoloured streaks, corresponding in all respects with the dirt-bands, may be developed in this way, out of particles of dirt, scattered upon the surface of a body moving in the manner of a viscous mass; but whether the breaking up of the substance of a glacier in its passage down a

cascade is the necessary condition of the formation of dirt-bands, or only a common concomitant circumstance, is a question which seems to us to require further investigation.

In the foregoing pages we have neither attempted to develop a complete theory of glaciers, nor, on the other hand, has our purpose been simply critical and destructive. We have desired to show, on the one hand, that much has been done towards establishing a true theory of glaciers; but, on the other hand, we have endeavoured to demonstrate that on this basis of fact, a superstructure of hypotheses has been elevated, which must be rased to the ground before we can hope to build up a solid theory. Supposing our destructive efforts to have been successful, we have endeavoured to point out from what quarter light is likely to flow in upon us; and whatever be the ultimate result of scientific inquiry, there can, we think, be no doubt that deductions from the law of regelation, and from the law of the development of cleavage by pressure, will hereafter take a prominent place in every theory of glaciers. And unless further observation brings to light facts at present unknown and unexpected in the motion and structure of glaciers, we shall venture to believe that these phenomena are deducible from the experimentally demonstrable properties of ordinary ice, and do not depend upon any hypothetical and undemonstrable "viscosity" of the substance of a glacier.

How the snow-flakes which fall upon the mountain become *névé*,—through what successive stages the *névé* passes in becoming glacier ice,—how far hydrostatic pressure may or may not play a part in the motion of a glacier,—whether the primitive stratification of the *névé* is preserved or obliterated in the body of a glacier,—on all these points, we have intentionally abstained from offering any opinion. Notwithstanding the labour which has been bestowed upon this subject by a natural philosopher like Forbes, and by a mathematician such as Hopkins; in spite of the lengthened investigations of the acute Agassiz and his coadjutors, and the mass of facts which have been accumulated by so many accurate observers — from De Saussure to the Messrs. Schlagintweit, we want more light,—such light as can alone be developed by the union of accurate and extensive observation in the field, with incessant experiment in the laboratory. And as we have ventured freely to criticize Professor Forbes's views, so let us, in conclusion, have the pleasure of acknowledging, that the value of such union is nowhere more strikingly exemplified than in his early works on glaciers.

Let us urge, then, the necessity of new investigations. If, of the many hundred travellers who will, next year, wander to the

Mer de Glace, or view with admiration the pinnacles of Grindelwald, but one or two should be stimulated by these pages to take up this question, our labour will be richly rewarded. And let them not despair of adding anything to the body of science, on account of the eminence of those who have preceded them. In science, as in life, every man, strong or weak, carries his burden but a little way, and then gives place to a younger, who seizes the load joyfully, thinking in his pride, that it is for him to bear it to the end of the journey. But after a short space he is also superseded, for the distance of the goal is infinite; and when we have all passed away, nature will still be inexhaustible.

Nor let the sublime grandeur of the scene of investigation appal the inquirer. Thinking man is greater than nature. Amidst the vast snowy solitudes which stretch away among the topmost Alpine peaks—or traversing the Görner Glacier, with the Matterhorn rising in unclouded splendour against the transparent blackness of the upper sky, like an altar raised by a giant to his God,—or listening to the voice of a glacier river as it vanishes in the cærulean depths of a mighty crevasse,—or standing on Monte Moro when the clouds, now rest thousands of feet below upon the Italian plain, leaving unveiled all the queenly beauties of Monte Rosa, now sweep up like mighty eagles and nestle amidst her highest crags,—Man feels, with awful joy, his sovereignty over matter. Atom as he is, his will is greater than these brute forces; and as he rises above them, he smiles to see that nature, like the old god Proteus, strives to terrify her assailants, but yields her secrets if she be held fast and questioned.

Art. V.—Progress: its Law and Cause.

1. *Cosmos: a Sketch of a Physical Description of the Universe.* By Alexander von Humboldt. Translated from the German, by E. C. Otté. 4 vols. London: H. G. Bohn.
2. *Principles of Geology:* or the Modern Changes of the Earth and its Inhabitants considered as illustrative of Geology. By Sir Charles Lyell, M.A., F.R.S. Ninth Edition. London: John Murray.
3. *Principles of Comparative Physiology.* By William B. Carpenter, M.D., F.R.S., F.G.S. Fourth Edition. London: John Churchill.

THE current conception of Progress is somewhat shifting and indefinite. Sometimes it comprehends little more than simple growth—as of a nation in the number of its members and the extent of territory over which it has spread. Sometimes it has reference to quantity of material products—as when the advance of agriculture and manufactures is the topic. Sometimes the superior quality of these products is contemplated; and sometimes the new or improved appliances by which they are produced. When, again, we speak of moral or intellectual progress, we refer to the state of the individual or people exhibiting it; whilst, when the progress of Knowledge, of Science, of Art, is commented upon, we have in view certain abstract results of human thought and action. Not only, however, is the current conception of Progress more or less vague, but it is in great measure erroneous. It takes in not so much the reality of Progress as its accompaniments—not so much the substance as the shadow. That progress in intelligence which takes place during the evolution of the child into the man, or the savage into the philosopher, is commonly regarded as consisting in the greater number of facts known and laws understood: whereas the actual progress consists in those internal modifications of which this increased knowledge is the expression. Social progress is supposed to consist in the produce of a greater quantity and variety of the articles required for the satisfaction of men's wants; in the increasing security of person and property; in the widening freedom of action enjoyed: whereas, rightly understood, social progress consists in those changes of structure in the social organism which have entailed

these consequences. The current conception is a teleological one. The phenomena are contemplated solely as bearing on human happiness. Only those changes are held to constitute progress which directly or indirectly tend to heighten human happiness. And they are thought to constitute progress simply *because* they tend to heighten human happiness. But rightly to understand Progress, we must inquire what is the nature of these changes, considered apart from our interests. Ceasing, for example, to regard the successive geological modifications that have taken place in the Earth, as modifications that have gradually fitted it for the habitation of Man, and as *therefore* a geological progress, we must seek to determine the character common to these modifications—the law to which they all conform. And similarly in every other case. Leaving out of sight concomitants and beneficial consequences, let us ask what Progress is in itself.

In respect to that progress which individual organisms display in the course of their evolution, this question has been answered by the Germans. The investigations of Wolff, Goethe, and Von Baer, have established the truth that the series of changes gone through during the development of a seed into a tree, or an ovum into an animal, constitute an advance from homogeneity of structure to heterogeneity of structure. In its primary stage, every germ consists of a substance that is uniform throughout, both in texture and chemical composition. The first step in its development is the appearance of a difference between two parts of this substance; or, as the phenomenon is described in physiological language—a differentiation. Each of these differentiated divisions presently begins itself to exhibit some contrast of parts; and by and by these secondary differentiations become as definite as the original one. This process is continuously repeated—is simultaneously going on in all parts of the growing embryo; and by endless multiplication of these differentiations there is ultimately produced that complex combination of tissues and organs constituting the adult animal or plant. This is the course of evolution followed by all organisms whatever. It is settled beyond dispute that organic progress consists in a change from the homogeneous to the heterogeneous.

Now, we propose in the first place to show, that this law of organic progress is the law of all progress. Whether it be in the development of the Earth, in the development of Life upon its surface, in the development of Society, of Government, of Manufactures, of Commerce, of Language, Literature, Science, Art, this same evolution of the simple into the complex, through a process of continuous differentiation, holds throughout. From the earliest traceable cosmical changes down to the latest results

of civilization, we shall find that the transformation of the homogeneous into the heterogeneous, is that in which Progress essentially consists.

With the view of showing that *if* the Nebular Hypothesis be true, the genesis of the solar system supplies one illustration of this law; let us assume that the matter of which the sun and planets consist once existed in a diffused form; and that from the gravitation of its atoms there resulted a gradual concentration. By the hypothesis, the solar system, in its nascent state, existed as an indefinitely extended and nearly homogeneous medium—a medium almost homogeneous in density, in temperature, and in other physical attributes. The first advance towards consolidation resulted in a differentiation between the occupied space which the nebulous mass still filled, and the unoccupied space which it previously filled. There simultaneously resulted a contrast in density and a contrast in temperature, between the interior and the exterior of this mass. And at the same time there arose throughout it rotatory movements, whose velocities varied according to their distances from its centre. These differentiations increased in number and degree until there was evolved the organized group of sun, planets, and satellites, which we now know—a group which presents numerous contrasts of structure and action among its members. There are the immense contrasts between the sun and the planets, in bulk and in weight; as well as the subordinate contrasts between one planet and another, and between the planets and their satellites. There is the similarly marked contrast between the sun as almost stationary, and the planets as moving round him with great velocity; whilst there are the secondary contrasts between the velocities and periods of the several planets, and between their simple revolutions and the double ones of their satellites, which have to move round their primaries whilst moving round the sun. There is the yet further strong contrast between the sun and the planets in respect of temperature; and there is reason to suppose that the planets and satellites differ from each other in their proper heat, as well as in the heat they receive from the sun. When we bear in mind that, in addition to these various contrasts, the planets and satellites also differ in respect to their distances from each other and their primary; in respect to the inclinations of their orbits, the inclinations of their axes, their times of rotation on their axes, their specific gravities, and their physical constitutions; we see what a high degree of heterogeneity the solar system exhibits, when compared with the almost complete homogeneity of the nebulous mass out of which it is supposed to have originated.

Passing from this hypothetical illustration, which must be taken for what it is worth, without prejudice to the general argument, let us descend to a more certain order of evidence. It is now generally agreed among geologists that the Earth was at first a mass of molten matter; and that it is still fluid and incandescent at the distance of a few miles beneath its surface. Originally, then, it was homogeneous in consistence, and, in virtue of the circulation that takes place in heated fluids, must have been comparatively homogeneous in temperature; and it must have been surrounded by an atmosphere consisting partly of the elements of air and water, and partly of those various other elements which assume a gaseous form at high temperatures. That slow cooling by radiation, which is still going on at an inappreciable rate, and which, though originally far more rapid than now, necessarily required an immense time to produce any decided change, must ultimately have resulted in the solidification of the portion most able to part with its heat—namely, the surface. In the thin crust thus formed we have the first marked differentiation. A still further cooling, a consequent thickening of this crust, and an accompanying deposition of all solidifiable elements contained in the atmosphere, must ultimately have been followed by the condensation of the water previously existing in a gaseous state. A second marked differentiation must thus have arisen: and as the condensation must have taken place on the coolest parts of the surface—namely, about the poles—there must simultaneously have resulted the first geographical distinction of parts. To these illustrations of increasing heterogeneity, which, though deduced from the known laws of matter, will perhaps be regarded as more or less hypothetical, Geology adds an extensive series that have been inductively established. Its investigations show that the Earth has been continually becoming more heterogeneous, in virtue of the multiplication of the strata constituting its crust; further, that it has been becoming more heterogeneous in respect of the composition of these strata, the latter of which, as being formed from the detritus of the older ones, are many of them rendered highly complex by the mixture of materials they contain; that the heterogeneity has been further increased by the action of the Earth's still molten nucleus upon its envelope, whence have resulted not only a great variety of igneous rocks, but the tilting up of sedimentary strata at all angles, the formation of faults and metallic veins, the production of endless dislocations and irregularities. Yet again, geologists teach us that the Earth's surface has been becoming more varied in elevation—that the most ancient mountain systems are the smallest, and the Andes and Himalayas the most modern; whilst in all probability there

have been corresponding changes in the bed of the ocean. As a consequence of these ceaseless differentiations, we now find that no considerable portion of the Earth's exposed surface is like any other portion, either in contour, in geologic structure, or in chemical composition; and that in most parts it changes, from mile to mile, in all these characteristics. Moreover, it must not be forgotten that there has been simultaneously going on a gradual differentiation of climates. As fast as the Earth cooled and its crust solidified, there arose appreciable differences in temperature between those parts of its surface most exposed to the sun and those less exposed. Gradually, as the cooling progressed, these differences became more pronounced; until there finally resulted those marked contrasts between regions of perpetual ice and snow, regions where winter and summer alternately reign for periods varying according to the latitude, and regions where summer follows summer with scarcely an appreciable variation. At the same time, the successive elevations and subsidences of different portions of the Earth's crust, tending as they have done to the present irregular distribution of land and sea, have entailed various modifications of climate beyond those dependent on latitude; while a yet further series of such modifications have been produced by increasing differences of elevation in the land, which have in sundry places brought arctic, temperate, and tropical climates to within a few miles of each other. And the general result of these changes is, that not only has every extensive region its own meteorologic conditions, but that every locality in each region differs more or less from others in those conditions, as in its structure, its contour, its soil. Thus, between our existing Earth, the phenomena of whose varied crust neither geographers, geologists, mineralogists, nor meteorologists have yet enumerated, and the molten globe out of which it was evolved, the contrast in heterogeneity is sufficiently striking.

When from the Earth itself we turn to the plants and animals that have lived, or still live, upon its surface, we find ourselves in some difficulty from lack of facts. That every existing organism has been developed out of the simple into the complex, is indeed the first established truth of all; and that every organism that has existed was similarly developed, is an inference which no physiologist will for a moment hesitate to draw. But when we pass from individual forms of life to Life in general, and inquire whether the same law is seen in the *ensemble* of its manifestations,—whether modern plants and animals are of more heterogeneous structure than ancient ones, and whether the Earth's present Flora and Fauna are more heterogeneous than the Flora and Fauna of the past,—we find the evidence so fragmentary, that every conclusion is open to dispute. Two-thirds

of the Earth's surface being covered by water; a great part of the exposed land being inaccessible to, or untravelled by, the geologist; the greater part of the remainder having been scarcely more than glanced at; and even the most familiar portions, as England, having been so imperfectly explored that a new series of strata has been added within these four years,—it is manifestly impossible for us to say with any certainty what creatures have, and what have not, existed at any particular period. Considering the perishable nature of many of the lower organic forms, the metamorphosis of many sedimentary strata, and the gaps that occur among the rest, we shall see further reason for distrusting our deductions. On the one hand, the repeated discovery of vertebrate remains in strata previously supposed to contain none,—of reptiles where only fish were thought to exist,—of mammals where it was believed there were no creatures higher than reptiles,—renders it daily more manifest how small is the value of negative evidence. On the other hand, the worthlessness of the assumption that we have discovered the earliest, or anything like the earliest, organic remains, is becoming equally clear. That the oldest known sedimentary rocks have been greatly changed by igneous action, and that still older ones have been totally transformed by it, is becoming undeniable. And the fact that sedimentary strata earlier than any we know, have been melted up, being admitted, it must also be admitted that we cannot say how far back in time this destruction of sedimentary strata has been going on. Thus it becomes manifest that the title *Palæozoic*, as applied to the earliest known fossiliferous strata, involves a *petitio principii*; and that, for aught we know to the contrary, only the last few chapters of the Earth's biological history may have come down to us. On neither side, therefore, is the evidence conclusive. Nevertheless we cannot but think that, scanty as they are, the facts, viewed in their *ensemble*, tend to show both that the more heterogeneous organisms have been evolved in the later geologic periods, and that Life in general has been more heterogeneously manifested as time has advanced. Let us take, in illustration, the one case of the *vertebrata*. The earliest known vertebrate remains are those of Fishes; and Fishes are the most homogeneous of the vertebrata. Later and more heterogeneous are Reptiles. Later still, and more heterogeneous still, are Mammals and Birds. If it be said, as it may fairly be said, that the Palæozoic deposits, not being estuary deposits, are not likely to contain the remains of terrestrial vertebrata, which may nevertheless have existed at that era, we reply that we are merely pointing to the leading facts, *such as they are*. But to avoid any such criticism, let us take the mammalian subdivision only. The earliest known remains of mam-

mals are those of small marsupials, which are the lowest of the mammalian type; whilst, conversely, the highest of the mammalian type—Man—is the most recent. The evidence that the vertebrate fauna, as a whole, has become more heterogeneous, is considerably stronger. To the argument that the vertebrate fauna of the Palæozoic period, consisting, so far as we know, entirely of Fishes, was less heterogeneous than the modern vertebrate fauna, which includes Reptiles, Birds, and Mammals of multitudinous genera, it may be replied, as before, that estuary deposits of the Palæozoic period, could we find them, might contain other orders of vertebrata. But no such reply can be made to the argument that, whereas the marine vertebrata of the Palæozoic period consisted entirely of cartilaginous fishes, the marine vertebrata of later periods include numerous genera of osseous fishes; and that, therefore, the later marine vertebrate faunas are more heterogeneous than the oldest known one. Nor, again, can any such reply be made to the fact that there are far more numerous orders and genera of mammalian remains in the tertiary formations than in the secondary formations. Did we wish merely to make out the best case, we might dwell upon the opinion of Dr. Carpenter, who says that "the general facts of Palæontology appear to sanction the belief, that *the same plan* may be traced out in what may be called *the general life of the globe*, as in *the individual life* of every one of the forms of organized being which now people it." Or we might cite, as decisive, the judgment of Professor Owen, who holds that the earlier examples of each group of creatures severally departed less widely from archetypal generality than the later ones—were severally less unlike the fundamental form common to the group as a whole; that is to say—constituted a less heterogeneous group of creatures; and who further upholds the doctrine of a biological progression. But in deference to an authority for whom we have the highest respect, who considers that the evidence at present obtained does not justify a verdict either way, we are content to leave the question open.

Whether an advance from the homogeneous to the heterogeneous is or is not displayed in the biological history of the globe, it is clearly enough displayed in the progress of the latest and most heterogeneous creature—Man. It is alike true that, during the period in which the Earth has been peopled, the human organism has become more heterogeneous among the civilized divisions of the species; and that the species, as a whole, has been growing more heterogeneous in virtue of the multiplication of races and the differentiation of these races from each other. In proof of the first of these positions, we may cite the fact that, in the relative development of the limbs, the civilized man departs

more widely from the general type of the placental mammalia than do the lower human races. Whilst often possessing well-developed body and arms, the Papuan has extremely small legs: reminding us in this respect of the quadrumana, in which there is no great contrast in size between the hind and fore limbs. But in the European, the greater length and massiveness of the legs has become very marked—the fore and hind limbs are relatively more heterogeneous. Again, in the greater ratio which the cranial bones bear to the facial bones, we may see the same truth. Among the vertebrata in general, progress is marked by an increasing heterogeneity in the vertebral column, and more especially in the vertebræ constituting the skull: the higher forms being distinguished by the relatively larger size of the bones which cover the brain, and the relatively smaller size of those which form the jaws, &c. Now, this characteristic, which is more marked in Man than in any other creature, is more marked in the European than in the savage. Judging from the greater extent and variety of faculty he exhibits, we may infer that the civilized man has also a more complex or heterogeneous nervous system than the uncivilized man: and indeed the fact is in part visible in the increased ratio which his cerebrum bears to the subjacent ganglia. If further elucidation be needed, we may find it in every nursery. The infant European has sundry marked points of resemblance to the lower human races; as in the flatness of the alæ of the nose, the depression of its bridge, the divergence and forward opening of the nostrils, the form of the lips, the absence of a frontal sinus, the width between the eyes, the smallness of the legs. Now, as the developmental process by which these characteristics are changed into those of the adult European, is a continuation of that change from the homogeneous to the heterogeneous exhibited during the previous evolution of the embryo, which every physiologist will admit; it follows that the parallel developmental process by which the like characteristics of the barbarous races have been changed into those of the civilized races, has also been a continuation of the change from the homogeneous to the heterogeneous. The truth of the second position—that Mankind, as a whole, have become more heterogeneous—is so obvious as scarcely to need illustration. Every work on Ethnology, by its divisions and subdivisions of races, bears testimony to it. Even were we to admit the hypothesis that Mankind originated from several separate stocks, it would still remain true, that as, from each of these stocks, there have sprung many now widely different tribes, which are proved by philological evidence to have had a common origin, the race as a whole is far less homogeneous than it was at first. Add to which, that we have, in the Anglo-Americans, an example of a new

variety arising within these few generations; and that, if we may trust to the descriptions of observers, we are likely soon to have another such example in Australia.

On passing from Humanity under its individual form, to Humanity as socially embodied, we find the general law still more variously exemplified. The change from the homogeneous to the heterogeneous is displayed equally in the evolution of civilization as a whole, and in the progress of every tribe or nation; and is still going on with increasing rapidity. As we see in still existing barbarous tribes, society in its first and lowest form is a homogeneous aggregation of individuals having like powers and performing like functions: the only marked differentiation of function being that which accompanies difference of sex. Every man is warrior, hunter, fisherman, tool-maker, builder; every woman performs the same drudgeries; every family is self-sufficing, and, save for purposes of aggression and defence, might as well live apart from the rest. Very early, however, in the process of social evolution, we find an incipient differentiation between the governing and the governed. Some kind of chieftainship seems almost co-ordinate with the first advance from the state of separate wandering families to that of a nomadic tribe. The authority of the strongest makes itself felt among a body of savages as in a herd of animals, or a posse of schoolboys. At first, however, it is indefinite, uncertain,—is shared by others of scarcely inferior power, and is unaccompanied by any difference in occupation or style of living: the first ruler kills his own game, makes his own weapons, builds his own hut, and, economically considered, does not differ from others of his tribe. Gradually, as the tribe progresses, the contrast between the governing and the governed grows more marked. Supreme power becomes hereditary in one family; the head of that family ceasing to provide for his own wants, is served by others; and he begins to assume the sole office of ruling. At the same time there has been arising a co-ordinate species of government—that of Religion. As all ancient records and traditions prove, the earliest rulers are regarded as divine personages. The maxims and commands they uttered during their lives are held sacred after their deaths, and are enforced by their divinely-descended successors; who in their turns are promoted to the pantheon of the race, there to be worshipped and propitiated along with their predecessors: the most ancient of whom is the supreme god, and the rest subordinate gods. For a long time these connate forms of government—civil and religious—continue closely associated. For many generations the king continues to be the chief priest, and the priesthood to be members of the royal race. For many ages religious law continues to contain more or less of civil

regulation, and civil law to possess more or less of religious sanction; and even among the most advanced civilized nations these two controlling agencies are by no means completely differentiated from each other. Having a common root with these, and becoming gradually separate from them, we find yet another controlling agency—that of Manners or ceremonial usages. All titles of honour are originally the names of the god-king; afterwards of God and the king; still later of persons of high rank; and finally come, some of them, to be used between man and man. All forms of complimentary address were primarily the expressions of submission from prisoners to their conqueror, or from subjects to their ruler, either human or divine—expressions that were afterwards used to propitiate subordinate authorities, and gradually descended into ordinary intercourse. All modes of salutation were originally obeisances made before the monarch and used in worship of him after his death. Presently others of the god-descended race were similarly saluted; and by degrees some of the salutations have become the due of all.* Thus, no sooner does the originally homogeneous social mass become definitely differentiated into the governed and the governing parts, than this last exhibits an incipient differentiation into religious and secular—Church and State; while at the same time there begins to be differentiated from both, that less concrete species of government which rules the daily intercourse of individuals—a species of government which, as we may see in heralds' colleges, in books of the peerage, in masters of ceremonies, is not without a certain embodiment of its own. Each of these is itself subject to successive differentiations. In the course of ages, there arises, as among ourselves, a highly complex political organization of monarch, ministers, lords and commons, with their subordinate administrative departments, courts of justice, revenue offices, &c., supplemented in the provinces by municipal governments, county governments, parish or union governments—all of them more or less elaborated. By its side there grows up a highly complex religious organization, with its various grades of officials, from archbishops down to sextons, its colleges, convocations, ecclesiastical courts, &c.; to all which must be added the ever-multiplying independent sects, each with its general and local authorities. And at the same time there is developed a highly complex aggregation of customs, manners, and temporary fashions, enforced by society at large, and serving to control those minor transactions between man and man which are not regulated by civil and religious law. Moreover it is to be observed that this

* For detailed proof of these assertions the reader is referred to an article on *Manners and Fashion*, published in No. X. of this Journal, for April, 1854.

ever-increasing heterogeneity in the governmental appliances of each nation, has been accompanied by an increasing heterogeneity in the governmental appliances of different nations: all of which are more or less unlike in their political systems and legislation, in their creeds and religious institutions, in their customs and ceremonial usages.

Simultaneously there has been going on a second differentiation of a still more familiar kind; that, namely, by which the mass of the community has become segregated into distinct classes and orders of workers. While the governing part has been undergoing the complex development above described, the governed part has been undergoing an equally complex development, which has resulted in that minute division of labour characterizing advanced nations. It is needless to trace out this progress from its first stages, up through the caste divisions of the East and the incorporated guilds of Europe, to the elaborate producing and distributing organization existing among ourselves. Political economists have made familiar to all, the evolution which, beginning with a tribe whose members severally perform the same actions each for himself, ends with a civilized community whose members severally perform different actions for each other; and they have further explained the evolution through which the solitary producer of any one commodity, is transformed into a combination of producers who, united under a master, take separate parts in the manufacture of such commodity. But there are yet other and higher phases of this advance from the homogeneous to the heterogeneous in the industrial structure of the social organism. Long after considerable progress has been made in the division of labour among different classes of workers, there is still little or no division of labour among the widely separated parts of the community: the nation continues comparatively homogeneous in the respect that in each district the same occupations are pursued. But when roads and other means of transit become numerous and good, the different districts begin to assume different functions, and to become mutually dependent. The calico manufacture locates itself in this county, the woollen-cloth manufacture in that; silks are produced here, lace there; stockings in one place, shoes in another; pottery, hardware, cutlery, come to have their special towns; and ultimately every locality becomes more or less distinguished from the rest by the leading occupation carried on in it. Nay, more, this subdivision of functions shows itself not only among the different parts of the same nation, but among different nations. That exchange of commodities which free-trade promises so greatly to increase, will ultimately have the effect of specializing, in a greater or less degree, the industry

of each people. So that beginning with a barbarous tribe, almost if not quite homogeneous in the functions of its members, the progress has been, and still is, towards an economic aggregation of the whole human race, growing ever more heterogeneous in respect of the separate functions assumed by separate nations, the separate functions assumed by the local sections of each nation, the separate functions assumed by the many kinds of makers and traders in each town, and the separate functions assumed by the workers united in producing each commodity.

Not only is the law thus clearly exemplified in the evolution of the social organism, but it is exemplified with equal clearness in the evolution of all products of human thought and action; whether concrete or abstract, real or ideal. Let us take Language as our first illustration.

The lowest form of language is the exclamation, by which an entire idea is vaguely conveyed through a single sound; as among the lower animals. That human language ever consisted solely of exclamations, and so was strictly homogeneous in respect of its parts of speech, we have no evidence. But that language can be traced down to a form in which nouns and verbs are its only elements, is an established fact. In the gradual multiplication of parts of speech out of these primary ones—in the differentiation of verbs into active and passive, of nouns into abstract and concrete—in the rise of distinctions of mood, tense, person, of number and case—in the formation of auxiliary verbs, of adjectives, adverbs, pronouns, prepositions, articles—in the evolution of those orders, genera, species, and varieties of parts of speech by which civilized races express minute modifications of meaning—we see a change from the homogeneous to the heterogeneous. And it may be remarked, in passing, that it is more especially in virtue of having carried this subdivision of function to a greater extent and completeness, that the English language is superior to all others. Another phase under which we may contemplate the development of language is the differentiation of words of allied meanings. Philology early disclosed the truth that in all languages words may be grouped into families having a common ancestry. An aboriginal name applied indiscriminately to each of an extensive and ill-defined class of things or actions, presently undergoes modifications by which the chief divisions of the class are expressed. These several names springing from the primitive root, themselves become the parents of other names still further modified. And by the aid of those systematic modes which presently arise, of making derivatives and forming compound terms expressing still smaller distinctions and qualifications, there is ultimately developed a tribe of words so heterogeneous in character and meaning, that to the uninitiated it seems incredible they should have had a common origin. Meanwhile

from other roots there are being evolved other such tribes, until there results a language of some sixty thousand or more unlike words, signifying as many unlike objects, qualities, acts. Yet another way in which language in general exhibits advance from the homogeneous to the heterogeneous, is in the multiplication of languages. Whether, as Max Müller and Bunsen think, all languages have grown from one stock, or whether, as some philologists say, they have grown from two or more stocks, it is clear that since large families of languages, as the Indo-European, are of one parentage, they have become distinct through a process of continuous divergence. The same diffusion over the Earth's surface which has led to the differentiation of the race, has simultaneously led to a differentiation of their speech: a truth which we see further illustrated in each nation by the peculiarities of dialect found in separate districts. Thus the progress of Language conforms to the general law alike in the evolution of languages, in the evolution of families of words, and in the evolution of parts of speech.

On passing from spoken to written language, we come upon several classes of facts, all having similar implications. Written language is connate with Painting and Sculpture; and at first all three are appendages of Architecture, and have a direct connexion with the primary form of all government—the Theocratic. Merely noting by the way the fact that sundry wild races, as for example the Australians and the tribes of South Africa, are given to depicting personages and events upon the walls of caves, which are probably regarded as sacred places, let us pass to the case of the Egyptians. Among them, as also among the Assyrians, we find mural paintings used to decorate the temple of the god and the palace of the king (which were indeed originally identical); and as such they were governmental appliances in the same sense that state-pageants and religious feasts were. Further, they were governmental appliances in virtue of representing the worship of the god, the triumphs of the god-king, the submission of his subjects, and the punishment of the rebellious. And yet again they were governmental, as being the products of an art reverenced by the people as a sacred mystery. From the habitual use of this pictorial representation there naturally grew up the but slightly modified practice of picture-writing—a practice which was found still extant among the Mexicans at the time they were discovered. By a process of abbreviation analogous to that which has been abundantly exemplified in our own written and spoken language, the most familiar of these pictured figures were successively simplified; and ultimately there grew up a system of symbols, most of which had but a distant resemblance to the things for which they stood. The inference that the hieroglyphics of the Egyptians

were thus evolved is confirmed by the fact that the picture-writing of the Mexicans was found to have given birth to a like family of ideographic forms; and among them, as among the Egyptians, these had been partially differentiated into the *kuriological* or imitative, and the *tropical* or symbolic: which were, however, used together in the same record. In Egypt, written language underwent a further differentiation; whence resulted the *hieratic* and the *epistolographic* or *enchorial:* both of which can be clearly affiliated upon the original hieroglyphic. At the same time we find that for the expression of proper names which could not be otherwise conveyed, phonetic symbols were employed; and though it is alleged that the Egyptians never actually achieved complete alphabetic writing, yet it can scarcely be doubted that these phonetic symbols occasionally used in aid of their ideographic ones, were the germs out of which alphabetic writing grew. Once having become separate from hieroglyphics, alphabetic writing itself underwent numerous differentiations—multiplied alphabets were produced; between most of which, however, more or less connexion can still be traced. And in each civilized nation there has now grown up, for the representation of one set of sounds, several sets of written signs used for distinct purposes. Finally, through a yet more important differentiation came printing; which, uniform in kind as it was at first, has since become multiform.

While written language was passing through its earlier stages of development, the mural decoration which formed its root was being differentiated into Painting and Sculpture. The gods, kings, men, and animals represented, were originally marked by indented outlines and coloured. In most cases these outlines were of such depth, and the object they circumscribed so far rounded and marked out in its leading parts, as to form a species of work intermediate between intaglio and bas-relief. In other cases we see an advance upon this: the raised spaces between the figures being chiselled off, and the figures themselves appropriately tinted, a painted bas-relief was produced. The restored Assyrian architecture at Sydenham exhibits this style of art carried to greater perfection—the persons and things represented, though still barbarously coloured, are carved out with more truth and in greater detail: and in the winged lions and bulls used for the angles of gateways, we may see a considerable advance towards a completely sculptured figure; which, nevertheless, is still coloured, and still forms part of the building. But while in Assyria the production of a statue proper seems to have been little, if at all, attempted, we may trace in Egyptian art the gradual separation of the sculptured figure from the wall. A walk through the collection in the British Museum will clearly

show this; while it will at the same time afford an opportunity of observing the evident traces which the independent statues bear of their derivation from bas-relief: seeing that nearly all of them not only display that union of the limbs with the body which is the characteristic of bas-relief, but have the back of the statue united from head to foot with a block which stands in place of the original wall. Greece repeated the leading stages of this progress. As in Egypt and Assyria, these twin arts were at first united with each other and with their parent, Architecture, and were the aids of Religion and Government. On the friezes of Greek temples we see coloured bas-reliefs representing sacrifices, battles, processions, games—all in some sort religious. On the pediments we see painted sculptures more or less united with the tympanum, and having for subjects the triumphs of gods or heroes. Even when we come to statues that are definitely separated from the buildings to which they pertain, we still find them coloured; and only in the later periods of Greek civilization does the differentiation of sculpture from painting appear to have become complete. In Christian art we may clearly trace a parallel re-genesis. All early paintings and sculptures throughout Europe were religious in subject—represented Christs, crucifixions, virgins, holy families, apostles, saints. They formed integral parts of church architecture, and were among the means of exciting worship; as in Roman Catholic countries they still are. Moreover, the early sculptures of Christ on the cross, of virgins, of saints, were coloured: and it needs but to call to mind the painted madonnas and crucifixes still abundant in continental churches and highways, to perceive the significant fact that painting and sculpture continue in closest connexion with each other where they continue in closest connexion with their parent. Even when Christian sculpture was pretty clearly differentiated from painting, it was still religious and governmental in its subjects — was used for tombs in churches and statues of kings: while at the same time painting, where not purely ecclesiastical, was applied to the decoration of palaces, and besides representing royal personages, occupied itself almost wholly with sacred legends. Only in quite recent times have painting and sculpture become entirely secular arts. Only within these few centuries has painting been divided into historical, landscape, marine, architectural, genre, animal, still-life, &c., and sculpture grown heterogeneous in respect of the variety of real and ideal subjects with which it occupies itself.

Strange as it seems then, we find it no less true, that all forms of written language, of painting, and of sculpture, have a common root in the politico-religious decorations of ancient temples and palaces. Little resemblance as they now have, the bust that

stands on the console, the landscape that hangs against the wall, and the copy of the *Times* lying upon the table, are remotely akin; not only in nature, but by extraction. The brazen face of the knocker which the postman has just lifted, is related not only to the woodcuts of the *Illustrated London News* which he is delivering, but to the characters of the *billet-doux* which accompanies it. Between the painted window, the prayer-book on which its light falls, and the adjacent monument, there is consanguinity. The effigies on our coins, the signs over shops, the figures that fill every ledger, the coat of arms outside the carriage panel, and the placards inside the omnibus, are, in common with dolls, blue-books, paper-hangings, lineally descended from the rude sculpture-paintings in which the Egyptians represented the triumphs and worship of their god-kings. Perhaps no example can be given which more vividly illustrates the multiplicity and heterogeneity of the products that in course of time may arise by successive differentiations from a common stock.

Before passing to other classes of facts, it should be observed that the evolution of the homogeneous into the heterogeneous is displayed not only in the differentiation of Painting and Sculpture from Architecture and from each other, and in the increased variety and specialty of the subjects they embody, but it is further shown in the structure of each separate work. A modern picture or statue is far more heterogeneous in its constitution than an ancient one. An Egyptian sculpture-fresco represents all its figures as on one plane—that is, at the same distance from the eye; and so is less heterogeneous than a painting that represents them as at various distances from the eye. It exhibits all objects as exposed to the same degree of light; and so is less heterogeneous than a painting which exhibits its different objects and different parts of each object as in different degrees of light. It uses scarcely any but the primary colours, and these in their full intensity; and so is less heterogeneous than a painting which, introducing the primary colours but sparingly, employs an endless variety of intermediate tints, each of heterogeneous composition, and differing from the others not only in quality but in intensity. Moreover, we see in these aboriginal works a great uniformity of conception. The same arrangement of figures is continually represented—the same actions, attitudes, faces, dresses. In Egypt the modes of representation were so fixed that it was sacrilege to introduce a novelty; and indeed it could have been only in virtue of a fixed mode of representation that a system of hieroglyphics became possible. The Assyrian bas-reliefs display parallel characters. Deities, kings, attendants, winged-figures, and animals, are severally depicted in like positions, holding like implements, doing like things, and with like expression or non-expression of face. If a palm grove is

introduced, all the trees are of the same height, have the same number of leaves, and are equidistant. When water is represented, each wave is a counterpart of the rest; and the fish, almost always of one kind, are evenly distributed over the surface. The beards of the kings, the gods, and the winged-figures, are everywhere similar; as are the manes of the lions, and equally so those of the horses. Hair is represented throughout by one form of curl. The king's beard is quite architecturally built up of compound tiers of uniform curls, alternating with twisted tiers placed in a transverse direction, and arranged with perfect regularity; and the terminal tufts of the bulls' tails are represented in exactly the same manner. Without tracing out the like traits in early Christian art, in which, though less striking, they are still visible, the advance in heterogeneity will be sufficiently manifest on remembering that in the pictures of our own day the composition is endlessly varied; the attitudes, faces, expressions unlike; the subordinate objects different in size, form, position, texture; and more or less of contrast even in the smallest details. Or, if we compare an Egyptian statue, seated bolt upright on a block, with hands on knees, fingers outspread and parallel, eyes looking straight forward, and the two sides perfectly symmetrical in every particular, with a statue of the advanced Greek or the modern school, which is asymmetrical in respect of the position of the head, the body, the limbs, the arrangement of the hair, dress, appendages, and in its relations to neighbouring objects, we shall see the change from the homogeneous to the heterogeneous clearly manifested.

The co-ordinate origin and gradual differentiation of Poetry, Music, and Dancing, supply a series of facts of analogous character. Rhythm in speech, rhythm in sound, and rhythm in motion, were in the beginning but different elements of the same thing, and have only in process of time become separate things. Among various existing barbarous tribes we find them still united. The dances of savages are accompanied by some kind of monotonous chant, the clapping of hands, the striking of rude instruments: there are measured movements, measured words, and measured tones; and the whole ceremony, usually having reference to war or sacrifice, is of governmental character. In the early records of the historic races we similarly find these three forms of metrical action united in religious festivals. In the Hebrew writings we read that the triumphal ode composed by Moses on the defeat of the Egyptians, was sung to an accompaniment of dancing and timbrels. The Israelites danced and sung "at the inauguration of the golden calf. And as it is generally agreed that this representation of the Deity was borrowed from the mysteries of Apis, it is probable that the dancing was copied from that of the Egyptians

on those occasions." There was an annual dance in Shiloh on the sacred festival; and David danced before the ark. Again, in Greece the like relation is everywhere seen: the original type being there, as probably in other cases, a simultaneous chanting and mimetic representation of the life and adventures of the god. The Spartan dances were accompanied by hymns and songs; and in general the Greeks had "no festivals or religious assemblies but what were accompanied with songs and dances" —both of them being forms of worship used before altars. Among the Romans, too, there were sacred dances: the Salian and Lupercalian being named as of that kind. And even in Christian countries, as at Limoges, in comparatively recent times, the people have danced in the choir in honour of a saint. The incipient separation of these once united arts from each other and from religion, was early visible in Greece. Probably diverging from dances partly religious partly warlike, as the Corybantian, came the war dances proper, of which there were various kinds; and from these resulted secular dances. Meanwhile Music and Poetry, though still united, came to have an existence separate from dancing. The aboriginal Greek poems, religious in their subject matter, were not recited but chanted; and though at first the chant of the poet was accompanied by the dance of the chorus, it ultimately grew into independence. Later still, when the poem had been differentiated into epic and lyric—when it became the custom to sing the lyric and recite the epic—poetry proper was born. As during the same period musical instruments were being multiplied, we may presume that music came to have an existence apart from words. And both of them were simultaneously assuming other forms besides the religious. Facts having like implications might be cited from the histories of later times and peoples: as the practices of our own early minstrels, who sang to the harp heroic narratives versified by themselves to music of their own composition: thus uniting the now separate offices of poet, composer, vocalist, and instrumentalist. But, without further illustration, the common origin and gradual differentiation of Dancing, Poetry, and Music will be sufficiently manifest.

The advance from the homogeneous to the heterogeneous is displayed not only in the separation of these arts from each other and from religion, but also in the multiplied differentiations which each of them afterwards undergoes. Not to dwell upon the numberless kinds of dancing that have, in course of time, come into use,—and not to occupy space in detailing the progress of poetry, as seen in the development of the various forms of metre, of rhyme, and of general organization,—let us confine our attention to music as a type of the group. As

argued by Dr. Burney, and as implied by the customs of still extant barbarous races, the first musical instruments were, without doubt, percussive—sticks, calabashes, tom-toms,—and were used simply to mark the time of the dance; and in this constant repetition of the same sound, we see music in its most homogeneous form. The Egyptians had a lyre with three strings; the early lyre of the Greeks had four, constituting their tetrachord; in course of some centuries lyres of seven and eight strings were employed; and, by the expiration of a thousand years, they had advanced to their "great system" of the double octave: through all which changes there of course arose a greater heterogeneity of melody. Simultaneously there came into use the different modes—Dorian, Ionian, Phrygian, Æolian, and Lydian—answering to our keys: and of these there were ultimately fifteen. As yet, however, there was but little heterogeneity in the time of their music. Instrumental music during this period being merely the accompaniment of vocal music, and vocal music being completely subordinated to words,—the singer being also the poet, chanting his own compositions and making the lengths of his notes agree with the feet of his verses,—there necessarily resulted a tiresome uniformity of measure, which, as Dr. Burney says, "no resources of melody could disguise." Lacking the complex rhythm obtained by our equal bars and unequal notes, the only rhythm was that produced by the quantity of the syllables, and was of necessity comparatively monotonous. And further, it may be observed that the chant thus resulting, being like recitative, was much less clearly differentiated from ordinary speech than is our modern song. Nevertheless, in virtue of the extended range of notes in use, the variety of modes, the occasional variations of time consequent on changes of metre, and the multiplication of instruments, music had, towards the close of Greek civilization, attained to considerable heterogeneity—not indeed as compared with our music, but as compared with that which preceded it. As yet, however, there existed nothing but melody: harmony was unknown. It was not until Christian church-music had reached some development, that music in parts was evolved; and then it came into existence through a very unobtrusive differentiation. Difficult as it may be to conceive *à priori* how the advance from melody to harmony could take place without a sudden leap, it is none the less true that it did so. The circumstance which prepared the way for it, was the employment of two choirs singing alternately the same air. Afterwards it became the practice—very possibly first suggested by a mistake—for the second choir to commence before the first had ceased; thus producing a fugue: and with the simple airs then in use, a harmonious fugue might not improbably thus result.

The idea having once been given, the composing of airs productive of fugal harmony would naturally grow up; as in some way it *did* grow up out of this alternate choir-singing. And from the fugue to concerted music of two, three, four, and more parts, the transition was easy. Without tracing in detail the increasing complexity that resulted from introducing notes of various lengths, from the multiplication of keys, from the use of accidentals, from varieties of time, and so forth, it needs but to contrast music as it is, with music as it was, to see how immense is the increase of heterogeneity. We see this if, looking at music in its *ensemble*, we enumerate its many different genera and species—if we consider the divisions into vocal, instrumental, and mixed; and their subdivisions into music for different voices and different instruments: if we observe the many forms of sacred music, from the simple hymn, the chant, the canon, motet, anthem, &c., up to the oratorio; and the still more numerous forms of secular music, from the ballad up to the serenata, from the instrumental solo up to the symphony. Again, the same thing is seen on comparing any one sample of aboriginal music with a sample of modern music—even an ordinary song for the piano; which we find to be relatively highly heterogeneous, not only in respect of the varieties of pitch and length of the notes, the number of different notes sounding at the same instant in company with the voice, and the variations of strength with which they are sounded and sung, but in respect of the changes of key, the changes of time, the changes of *timbre* of the voice, and the many other modifications of expression. While between the old monotonous dance-chant and a grand opera of our own day, with its endless orchestral complexities and vocal combinations, the contrast in heterogeneity is so extreme that it seems scarcely credible that the one should have been the ancestor of the other.

Were they needed, many further illustrations might be cited. Going back to the early time when the deeds of the god-king, chanted and mimetically represented in dances round his altar, were further narrated in picture-writings on the walls of temples and palaces, and so constituted a rude literature, we might trace the development of Literature through phases in which, as in the Hebrew Scriptures, it presented in one work theology, cosmogony, history, biography, civil law, ethics, poetry; through other phases in which, as in the Iliad, the religious, martial, historical, the epic, dramatic, and lyric elements are similarly commingled; down to its present heterogeneous development, in which its divisions and subdivisions are so numerous and varied as to defy complete classification. Or we might trace out the evolution of Science; beginning with the era in which

it was not yet differentiated from Art, and was, in union with Art, the handmaid of Religion; passing through the era in which the sciences were so few and rudimentary, as to be simultaneously cultivated by the same philosophers; and ending with the era in which the genera and species are so numerous that few can enumerate them, and no one can adequately grasp even one genus. Or we might do the like with Architecture, with the Drama, with Dress. But doubtless the reader is already weary of illustrations; and our promise has been amply fulfilled. We believe we have shown beyond question, that that which the German physiologists have found to be the law of organic development, is the law of all development. The advance from the simple to the complex, through a process of successive differentiations, is seen alike in the earliest changes of the Universe to which we can reason our way back, and in the earliest changes which we can inductively establish; it is seen in the geologic and climatic evolution of the Earth, and of every single organism on its surface; it is seen in the evolution of Humanity, whether contemplated in the civilized individual, or in the aggregation of races; it is seen in the evolution of Society in respect both of its political and economical organization; and it is seen in the evolution of all those endless concrete and abstract products of human activity which constitute the environment of our daily life. From the remotest past which Science can fathom, down to the novelties of yesterday, that in which Progress essentially consists, is the transformation of the homogeneous into the heterogeneous.

And now, from this uniformity of procedure, may we not infer some fundamental necessity whence it results? May we not rationally seek for some all-pervading principle which determines this all-pervading process of things? Does not the universality of the *law* imply a universal *cause?*

That we can fathom such cause, noumenally considered, is not to be supposed. To do this would be to solve that ultimate mystery which must ever transcend human intelligence. But it still may be possible for us to reduce the law of all Progress, above established, from the condition of an empirical generalization, to the condition of a rational generalization. Just as it was possible to interpret Kepler's laws as necessary consequences of the law of gravitation; so it may be possible to interpret this law of Progress, in its multiform manifestations, as the necessary consequence of some similarly universal principle. As gravitation was assignable as the *cause* of each of the groups of phenomena which Kepler formulated; so may some equally simple attribute of things be assignable as the cause of each of the

groups of phenomena formulated in the foregoing pages. We may be able to affiiliate all these varied and complex evolutions of the homogeneous into the heterogeneous, upon certain simple facts of immediate experience, which, in virtue of endless repetition, we regard as necessary.

The probability of a common cause, and the possibility of formulating it, being granted, it will be well, before going further, to consider what must be the general characteristics of such cause, and in what direction we ought to look for it. We can with certainty predict that it has a high degree of generality; seeing that it is common to such infinitely varied phenomena: just in proportion to the universality of its application must be the abstractness of its character. We need not expect to see in it an obvious solution of this or that form of Progress; because it equally refers to forms of Progress bearing little apparent resemblance to them: its association with multiform orders of facts, involves its dissociation from any particular order of facts. Being that which determines Progress of every kind—astronomic, geologic, organic, ethnologic, social, economic, artistic, &c.—it must be concerned with some fundamental attribute possessed in common by all these; and must be expressible in terms of this fundamental attribute. The only obvious respect in which all kinds of Progress are alike, is, that they are modes of *change;* and hence, in some characteristic of changes in general, the desired solution will probably be found. We may suspect *à priori* that in some law of change lies the explanation of this universal transformation of the homogeneous into the heterogeneous.

Thus much premised, we pass at once to the statement of the law, which is this:—*Every active force produces more than one change—every cause produces more than one effect.*

Before this law can be duly comprehended, a few examples must be contemplated. When we strike one body against another, that which we usually regard as the effect, is a change of position or motion in one or both bodies. But a moment's thought shows us that this is a careless and very incomplete view of the matter. Besides the visible mechanical result, sound is produced; or, to speak accurately—a vibration in one or both bodies, and in the surrounding air: and under some circumstances we call this the effect. Moreover, the air has not only been made to vibrate, but has had sundry currents caused in it by the transit of the bodies. Further, there is a disarrangement of the particles of the two bodies in the neighbourhood of their point of collision; amounting in some cases to a visible condensation. Yet more, this condensation is accompanied by the evolution of a certain amount of heat. In some cases a spark—that is, light—

results, from the incandescence of a portion struck off: and sometimes this incandescence is associated with chemical combination. Thus, by the original mechanical force expended in the collision, at least five, and often more, different kinds of changes have been produced. Take, again, the lighting of a candle. Primarily this is a chemical change consequent on a rise of temperature. The process of combination having once been set going by extraneous heat, there is a continued evolution of carbonic acid, water, &c.—in itself a result more complex than the extraneous heat that first caused it. But accompanying this process of combination there is a production of heat; there is a production of light; there is an ascending column of hot gases generated; there are currents established in the surrounding air. Moreover, the decomposition of one force into many forces does not end here: each of the several changes produced becomes the parent of further changes. The carbonic acid given off will by and by enter into combination with some base; or under the influence of sunshine give up its carbon to the leaf of a plant. The water will modify the hygrometric condition of the surrounding air; or, if the current of hot gases containing it come against a cold body, will be condensed: altering the temperature, and perhaps the chemical state, of the surface it covers. The heat evolved melts the subjacent tallow, and expands the neighbouring air. The light, falling on various substances, calls forth from them reactions by which it is modified; and so various colours are produced. Similarly even with these secondary actions, which may be traced out into ever-multiplying ramifications, until they become too minute to be appreciated. And thus it is with all changes whatever. No case can be named in which an active force does not evolve forces of several kinds, and each of these, other groups of forces. Universally the effect is more complex than the cause.

Doubtless the reader already foresees the course of our argument. This multiplication of results, which is displayed in every event of to-day, has been going on from the beginning, and is true of the grandest phenomena of the universe as of the most insignificant. From the law that every active force produces more than one change, it is an inevitable corollary that throughout all time there has been an ever-growing complication of things. Starting with the ultimate fact that every cause produces more than one effect, we may readily see that throughout creation there must necessarily have gone on, and must still go on, a never-ceasing transformation of the homogeneous into the heterogeneous. But let us trace out this truth in detail.

Without committing ourselves to it as more than a speculation, though a highly probable one, let us again commence with

the evolution of the solar system out of a nebulous medium.* From the mutual attraction of the atoms of a diffused mass whose form is unsymmetrical, there results not only condensation but rotation—gravitation simultaneously generates both the centripetal and the centrifugal forces. While the condensation and the rate of rotation are progressively increasing, the approximation of the atoms necessarily generates a progressively increasing temperature. As this temperature rises to incandescence, light begins to be evolved; and ultimately there results a revolving sphere of fluid matter radiating intense heat and light—a sun. There are good reasons for believing that, in consequence of the high tangential velocity, and consequent centrifugal force, acquired by the peripheral portions of the condensing nebulous mass, the periodical detachment of rotating rings is a necessary result; and that, from the breaking up of these nebulous rings, there must arise masses which in the course of their condensation repeat the actions of the parent mass, and so produce planets and their satellites—an inference strongly supported by the still extant rings of Saturn. Should it hereafter be satisfactorily demonstrated that planets and satellites were thus generated, a striking illustration will be afforded of the highly heterogeneous effects resulting from the primary homogeneous cause; but it will sufficiently serve our present purpose to point to the fact that from the mutual attraction of the particles of an irregular nebulous mass there result condensation, rotation, heat, and light.

It follows as a corollary from the Nebular Hypothesis, that the Earth must originally have been in a state of incandescence; and whether the Nebular Hypothesis be true or not, this original incandescence of the Earth is now inductively established—or if not established, at least rendered so highly probable that it is a generally admitted geological doctrine. Let us look first at the astronomical attributes of this once molten globe. From its rotation there result the oblateness of its form, the alternations of day and night, and (under the influence of the moon) the tides, aqueous and atmospheric. From the inclination of its axis of rotation, there result the precession of the equinoxes and the many differences of the seasons, both simultaneous and successive, that pervade its surface. Thus the multiplication of effects is obvious. Several of the differentiations consequent on the gradual

* The idea that the Nebular Hypothesis has been disproved because what were thought to be existing nebulæ have been resolved into clusters of stars, is almost beneath notice. *A priori* it was highly improbable, if not impossible, that nebulous masses should still remain uncondensed, while others have been condensed millions of years ago.

cooling of the Earth have been already noticed—as the formation of a crust, the solidification of sublimed elements, the precipitation of water, &c.,—and we here again refer to them merely to point out that they are simultaneous results of the one cause, diminishing temperature. Let us now, however, observe the multiplied changes subsequently arising from the continuance of this one cause. The cooling of the Earth necessarily involves its contraction. Hence the solid crust first formed is presently too large for the shrinking nucleus; and as it cannot support itself, inevitably follows the nucleus. But a spheroidal envelope cannot sink down into contact with a smaller internal spheroid, without undergoing disruption: it must run into wrinkles as the rind of an apple does when the bulk of its interior decreases from evaporation. As the cooling progresses and the envelope thickens, the ridges consequent on these contractions necessarily become greater, rising ultimately into hills and mountains; and the later systems of mountains thus produced must not only be higher, as we find them to be, but they must be longer, as we also find them to be. Thus, leaving out of view other modifying forces, we see what immense heterogeneity of surface has resulted from the one cause, loss of heat—a heterogeneity which the telescope shows us to be paralleled on the face of the moon, where aqueous and atmospheric agencies have been absent. But we have yet to notice another species of heterogeneity of surface similarly and simultaneously caused. While the Earth's crust was still thin, the ridges consequent on its contraction must not only have been small, but the spaces between these ridges must have rested with great evenness upon the subjacent liquid spheroid; and the water in those arctic and antarctic regions in which it first condensed, must have been evenly distributed. But as fast as the crust grew thicker and gained corresponding strength, the lines of fracture from time to time caused in it, must have occurred at greater distances apart; the intermediate surfaces must have followed the contracting nucleus with less uniformity; and there must have resulted larger areas of land and water. If any one, after wrapping up an orange in wet tissue paper, and observing not only how comparatively small are the wrinkles, but how evenly the intervening spaces lie upon the surface of the orange, will then wrap it up in thick cartridge-paper, and note both the greater height of the ridges and the much larger spaces throughout which the paper does not touch the orange, he will be able to realize the fact, that as the Earth's solid envelope grew thicker, the areas of elevation and depression must have become greater. In place of islands more or less homogeneously scattered over an all-embracing sea, there must have gradually arisen heterogeneous arrangements of continent

and ocean, such as we now know. Yet further, this double change in the extent and in the elevation of the exposed lands, involved yet another species of heterogeneity—that of coast-line. A tolerably even surface raised out of the ocean must have a simple, regular sea-margin; but a surface varied by table-lands and intersected by mountain-chains of different heights, must, when raised out of the ocean, have an outline extremely irregular both in its leading features and in its details. Thus we see how enormous is the accumulation of geological and geographical results slowly brought about by the one cause—contraction of the Earth.

When we pass from the agency which geologists term igneous, to aqueous and atmospheric agencies, we see the like ever-growing complications of effects. The denuding actions of air and water have, from the beginning, been modifying every exposed surface; everywhere simultaneously producing many different changes. Oxidation, heat, wind, frost, rain, glaciers, rivers, tides, waves, have been unceasingly producing disintegration; varying in kind and amount according to local circumstances. Acting upon a simple tract of granite, they here work scarcely an appreciable effect; there cause exfoliations of the surface, and a consequent accumulation of *débris* and boulders; and elsewhere, after decomposing the feldspar into a white clay, carry away this and the accompanying quartz and mica, and deposit them in separate beds, fluviatile and marine. When the exposed land consists of several different formations, sedimentary and igneous, the denudation produces changes proportionably more heterogeneous. The formations being disintegrable in different degrees, an increased irregularity of surface is produced. The areas drained by different rivers being differently constituted, these rivers carry down to the sea different combinations of ingredients; and so sundry new strata of distinct composition are formed. And here indeed we may see very simply illustrated the truth, which we shall presently have to trace out in its more complex manifestations, that in proportion to the heterogeneity of the object or objects on which any force expends itself, is the heterogeneity of the results. A continent of complex structure, exposing numerous strata irregularly distributed, raised to various levels, tilted up at all angles, must, under the same denuding influences, give origin to immensely multiplied results: each district must be differently modified; each river must carry down a different kind of detritus; each deposit must be differently distributed by the involved currents, tidal and other, which wash the contorted shores; and this multiplication of results must manifestly be greatest where the complexity of the surface is greatest.

It is out of the question here to trace in detail the genesis of those endless complications described by Geology and Physical Geography: else we might show how the general truth, that every active force produces more than one change, is exemplified in the highly involved flow of the tides, in the ocean currents, in the winds, in the distribution of rain, in the distribution of heat, and so forth. But not to dwell upon these, let us, for the fuller elucidation of this truth in relation to the inorganic world, consider what would be the consequences of some extensive cosmical revolution—say the subsidence of Central America. The immediate results of the disturbance would themselves be sufficiently complex. Besides the numberless dislocations of strata, the ejections of igneous matter, the propagation of earthquake vibrations thousands of miles around, the loud explosions, and the escape of gases; there would be the rush of the Atlantic and Pacific Oceans to supply the vacant space, the subsequent recoil of enormous waves, which would traverse both these oceans and produce myriads of changes along their shores, the corresponding atmospheric waves complicated by the currents surrounding each volcanic vent, and the extensive electrical discharges with which such disturbances are accompanied. But these temporary effects would be insignificant compared with the permanent ones. The complex currents of the Atlantic and Pacific would be altered in direction and amount. The distribution of heat achieved by these ocean currents would be different from what it is. The arrangement of the isothermal lines, not only on the neighbouring continents, but even throughout Europe, would be changed. The tides would flow differently from what they do now. There would be more or less modification of the winds in their periods, strengths, directions, qualities. Rain would fall scarcely anywhere at the same times and in the same quantities as at present. In short, the meteorological conditions thousands of miles off, on all sides, would be more or less revolutionized. Thus, without taking into account the infinitude of modifications which these changes of climate would produce upon the flora and fauna, both of land and sea, the reader will sufficiently realize the immense heterogeneity of the results wrought out by one force, when that force expends itself upon a previously complicated area; and he will readily draw the unavoidable corollary that from the beginning the complication has advanced at an increasing rate.

Before going on to show how organic progress also depends upon the universal law that every force produces more than one change, we have to notice the manifestation of this law in yet another species of inorganic progress—namely, chemical. The same general causes that have wrought out the heterogeneity of

the Earth, physically considered, have simultaneously wrought out its chemical heterogeneity. Without dwelling upon the general fact that the forces which have been increasing the variety and complexity of geological formations, have, at the same time, been bringing into contact elements not previously exposed to each other under conditions favourable to union, and so have been adding to the number of chemical compounds, let us pass to the more important complications that have resulted from the cooling of the Earth. There is every reason to believe that at an extreme heat the elements cannot exist in combination at all. Even under such heat as can be artificially produced, some extremely powerful affinities yield, as for instance, that of oxygen for hydrogen; and the great majority of chemical compounds are decomposed at much lower temperatures. But without insisting upon the highly probable inference, that when the Earth was in its first state of incandescence there were no chemical combinations at all, it will suffice our purpose to point to the unquestionable fact that the compounds that can exist at the highest temperatures, and which must, therefore, have been the first to make their appearance as the Earth cooled, are those of the simplest constitutions. The protoxides—including under that head the alkalies, earths, &c.—are, as a class, the most stable compounds we know: most of them resisting decomposition by any heat we can generate. These, consisting severally of one atom of each component element, are combinations of the simplest order—are but one degree less homogeneous than the elements themselves. More heterogeneous than these, less stable, and therefore later in the Earth's history, are the deutoxides, tritoxides, peroxides, &c.; in which two, three, four, or more atoms of oxygen are united with one atom of metal or other element. Higher than these in heterogeneity are the hydrates; in which an oxide of hydrogen, united with an oxide of some other element, forms a combination whose atoms severally contain at least four ultimate atoms of three different kinds. Yet more heterogeneous and less stable still, are the salts; which present us with compound atoms each made up of five, six, seven, eight, ten, twelve, or more atoms, of three, if not more, kinds. Then there are the hydrated salts, of a yet greater heterogeneity, which undergo partial decomposition at much lower temperatures. After them come the further-complicated supersalts and double salts, having a stability again decreased; and so throughout. Without entering into qualifications for which we lack space, we believe no chemist will deny it to be a general law of these inorganic combinations that, *other things equal*, the stability decreases as the complexity increases. And then when we pass to the compounds of organic chemistry,

we find this general law still further exemplified: we find much greater complexity and much less stability. An atom of albumen, for instance, consists of 482 ultimate atoms of five different kinds. Fibrine, still more intricate in constitution, contains in each atom, 298 atoms of carbon, 49 of nitrogen, 2 of sulphur, 228 of hydrogen, and 92 of oxygen—in all, 660 atoms; or, more strictly speaking—equivalents. And these two substances are so unstable as to decompose at quite ordinary temperatures; as that to which the outside of a joint of roast meat is exposed. Thus it becomes manifest that the present chemical heterogeneity of the Earth's surface has arisen by degrees, as the progressive refrigeration has permitted; and that it has exhibited itself in three forms—first, in the multiplication of chemical compounds; second, in the greater number of different elements contained in the more modern of these compounds; and third, in the higher and more varied multiples in which these more numerous elements combine.

To say that this advance in chemical heterogeneity is due to the one cause, diminution of the Earth's temperature, would be to say too much; for it is clear that aqueous and atmospheric agencies have been concerned; and, further, that the affinities of the elements themselves are implied. The cause has all along been a composite one: the cooling of the Earth having been simply the most general of the concurrent causes, or assemblage of conditions. And here, indeed, it may be remarked that in the several classes of facts already dealt with (excepting perhaps the first), and still more in those with which we shall presently deal, the causes are more or less compound; as indeed are nearly all causes with which we are acquainted. Scarcely any change can with logical accuracy be wholly ascribed to one agency, to the neglect of the permanent or temporary conditions under which only this agency produces the change. But as it does not materially affect our argument, we prefer, for simplicity's sake, to use throughout the popular mode of expression. Perhaps it will be further objected, that to assign loss of heat as the cause of any changes, is to attribute these changes not to a force, but to the absence of a force. And this is true. Strictly speaking, the changes should be attributed to that force, or those forces, which come into action when the antagonist force is withdrawn. But though there is an inaccuracy in saying that the freezing of water is due to the loss of its heat, no practical error arises from it; nor will a parallel laxity of expression vitiate our statements respecting the multiplication of effects. Indeed, the objection serves but to draw attention to the general fact, that not only does the exertion of a force produce more than one change, but the withdrawal of a force produces more than one change. And

this suggests that perhaps the most correct statement of the general principle would be its most abstract statement—every change is followed by more than one other change.

Returning to the thread of our exposition, we have next to trace out, in organic progress, this same all-pervading principle. And here, where the evolution of the homogeneous into the heterogeneous was first observed, the production of many changes by one cause is most difficult to demonstrate. The development of a seed into a plant, or an ovum into an animal, is so gradual, while the forces which determine it are so involved, and at the same time so unobtrusive, that it is scarcely possible to detect that multiplication of effects which is elsewhere so obvious. Nevertheless, guided by indirect evidence, we may pretty safely reach the conclusion that here too the law holds. Observe, first, how numerous are the effects which any marked change will produce upon an adult organism—a human being, for instance. An alarming sound or sight, besides the immediate impressions on the organs of sense and the nerves, may produce a muscular start, a scream, a distortion of the face, a trembling consequent upon a general muscular relaxation, a burst of perspiration, an excited action of the heart, a rush of blood to the brain, followed possibly by arrest of the heart's action and by syncope; and if the system be feeble, an indisposition with its long train of complicated symptoms may set in. Similarly in cases of disease. A minute portion of the small-pox virus introduced into the system, will, in a severe case, cause, during the first stage, rigors, heat of skin, accelerated pulse, furred tongue, loss of appetite, thirst, epigastric uneasiness, vomiting, headache, pains in the back and limbs, muscular weakness, convulsions, delirium, &c.; in the second stage, cutaneous eruption, itching, tingling, sore throat, swelled fauces, salivation, cough, hoarseness, dyspnœa, &c.; and in the third stage, œdematous inflammations, pneumonia, pleurisy, diarrhœa, inflammation of the brain, ophthalmia, erysipelas, &c.: each of which enumerated symptoms is itself more or less complex. Medicines, special foods, better air, might in like manner be instanced as producing multiplied results. Now it needs only to consider that the heterogeneity of change thus wrought by a simple force upon an adult organism, will be in part parallel in an embryo organism, to understand how here also, the evolution of the homogeneous into the heterogeneous may be consequent upon the production of many effects by one cause. The external heat and other agencies which determine the first complications of the germ, may, by acting upon these, superinduce further complications; upon these still higher and more numerous ones; and so on continually—each organ as it is developed, serving by its actions and reactions upon the rest, to

initiate further complexities. The first pulsations of the fœtal heart must simultaneously affect the nutrition of all the tissues. The growth of each tissue, involving as it does the abstraction from the blood of special proportions of elements, must modify the constitution of the blood; and so must modify the nutrition of all the other tissues. The action of the heart, implying as it does a certain waste, necessitates the addition to the blood of effete matters, which must influence the rest of the system, and perhaps, as some think, themselves determine the formation of excretory organs. The nervous connexions established among the viscera must further multiply their mutual influences: and so continually. Indeed we may find *à priori* reason to think that the evolution proceeds after this manner. For since it is now known that no germ, animal or vegetable, contains the slightest rudiment, trace, or indication of the future organism—now that the microscope has shown us that the process first set up in every fertilized germ, is a process of repeated spontaneous fissions ending in the production of a mass of seemingly homogeneous cells, not one of which exhibits any special character; there seems no alternative but to suppose that the incipient or partial organization at any moment subsisting in a growing embryo, is itself transformed by environing influences into the succeeding phase of organization, and this into the next, until, through ever-increasing complexities, the ultimate form is reached. Thus, though the subtilty of the forces and the slowness of the results, render it impossible for us directly to show that the successive stages of increasing heterogeneity through which every growing embryo passes, are severally consequent upon the production of many changes by one force, yet, *indirectly*, we have strong evidence that they are so. We have observed how multitudinous are the effects which one cause may generate in an adult organism; the abstract necessity that an analogous multiplication of effects must happen in the unfolding organism, we have contemplated in sundry illustrative cases; and we have seen that structureless as every germ originally is, the development of an organism out of it is otherwise incomprehensible. Not indeed that we are thus enabled really to explain the production of any plant or animal. We are still in the dark respecting those mysterious properties in virtue of which the germ, when subjected to fit influences, undergoes the special changes initiating the series of developmental transformations. All which we aim to show, is, that given a germ possessing these mysterious properties, the evolution of a heterogeneous organism from it, probably depends upon that multiplication of effects which we have seen to be the cause of progress in general, so far as we have yet traced it.

When, leaving the development of single plants and animals, we pass to that of the Earth's flora and fauna, the course of our argument again becomes clear and simple. Though, as was admitted in the first part of this article, the fragmentary facts of Palæontology at present accumulated, do not clearly warrant us in saying that, in the lapse of geologic time, there have been evolved more heterogeneous individual organisms, and more heterogeneous assemblages of organisms, yet we shall now see that there *must* ever have been a tendency towards these results. We shall find that the production of many effects by one cause, which, as already shown, has been all along increasing the physical heterogeneity of the Earth, has further involved an increasing heterogeneity in its flora and fauna, individually and collectively. An illustration will make this clear. Suppose that by a succession of upheavals, occurring, as they are now known to do, at long intervals, the East Indian Archipelago were to be step by step raised into a continent, and a chain of mountains formed along the axis of elevation. By the first of these changes the plants and animals inhabiting Borneo, Sumatra, New Guinea, and the rest, would be subjected to slightly modified sets of conditions. The climate in general would be altered in temperature, in humidity, and in its periodical variations; whilst the local differences would be multiplied. These modifications would affect, perhaps inappreciably, the entire flora and fauna of the region. The change of level would produce additional modifications; varying in different species, and also in different members of the same species, according to their proximity to the axis of elevation. Certain kinds of plants, growing only on the sea-shore in special localities, might disappear entirely. Others, living only in swamps of a certain humidity, would, if they survived at all, probably undergo visible changes of appearance. While still greater alterations would occur in the plants gradually spreading over the lands newly raised above the sea. The animals and insects living upon these modified plants, would themselves be in some degree modified by change of food, as well as by change of climate; and the modification would be more marked where, from the dwindling or disappearance of one species of plant, an allied species was eaten. In the lapse of the many generations arising before the next upheaval, the sensible or insensible alteration thus produced in each species would become organized—there would be a more or less complete adaptation to the new conditions. The next upheaval would superinduce additional organic changes, involving more distinct divergences from the primary structures: and so repeatedly. But now let it be observed that the revolution thus resulting would not be a substitution of a thousand

more or less modified species for the thousand original species; but in place of the thousand original species there would arise several thousand species, or varieties, or changed forms. Each species being distributed over an area of some extent, and tending continually to colonize the new area exposed, its different members would be subject to different sets of changes. Plants and animals spreading towards the equator would not be affected in the same way with others spreading from it. Those spreading towards the new shores would undergo changes unlike the changes undergone by those spreading into the mountains. Thus, each original race of organisms that survived, would become the root from which diverged several races differing more or less from it and from each other; and while some of these might subsequently disappear, probably more than one would survive into the next geologic period: the very dispersion itself increasing the chances of survival. Not only would there be thus caused certain modifications consequent on change of physical conditions and kind of nutriment, but also in some cases other modifications consequent upon change of habits. The fauna of each island, peopling, step by step, the newly elevated tracts, would eventually come in contact with the faunas of other islands; and some members of these other faunas would differ more or less from any creatures before seen. Herbivores meeting with new beasts of prey, would, in some cases, be led into modes of defence or escape somewhat differing from those previously used; and simultaneously the beasts of prey would modify their modes of pursuit and attack. We know that when circumstances demand it, such changes of habit *do* take place in animals; and we know that if the new habits become the dominant ones, they must eventually in some degree alter the organization. Observe now, however, a further consequence. The process involves not simply a tendency towards the differentiation of each race of organisms into several races; but it involves a tendency to the occasional production of a somewhat higher organism. These divergent varieties of any species which have been caused by fresh physical conditions and habits of life, will exhibit changes quite indefinite in kind and degree; and changes that do not necessarily constitute an advance. Probably in most cases the modified type will neither be more nor less heterogeneous than the original one. In some cases the habits of life adopted being simpler than before, a less heterogeneous structure will result: there will be a retrogradation. But it *must* now and then occur, that some divergent branch of a species, falling into circumstances which give it somewhat more complex experiences, and demand actions somewhat more involved, will have certain of its organs further differentiated

in proportionately small degrees,—will become slightly more heterogeneous. Thus, in the natural course of things, there will from time to time arise an increased heterogeneity both of the Earth's flora and fauna, and of individual races included in them. Omitting detailed explanations, and allowing for the qualifications which cannot here be specified, we think it is clear that geological mutations have all along tended to complicate the forms of life, whether regarded separately or collectively. The same general causes which have determined the evolution of the Earth's crust from the simple into the complex, have simultaneously determined a parallel evolution of the Life upon its surface. In this case, as in previous ones, we see that the transformation of the homogeneous into the heterogeneous is consequent upon the universal principle, that every active force produces more than one change.

The deduction which we have here drawn from the established truths of geology and the general laws of life, gains immensely in weight on finding it to be in perfect harmony with an induction drawn from direct experience. Just that divergence of many races from one race, which we inferred must have been continually occurring during geologic time, we know to have taken place, during the pre-historic and historic periods, in man and domestic animals. And just that multiplication of effects which we concluded must have produced the first, we see has produced the last. Single causes, as famine, pressure of population, war, have periodically led to further dispersions of mankind and of dependent creatures: each such dispersion initiating new modifications, new varieties of type. Whether all the human races be or be not derived from one stock, philological evidence makes it clear that whole groups of races now easily distinguishable from each other, were originally one race,—that the diffusion of one race in sundry directions into different climates and conditions of existence, has simultaneously produced many modified forms of it. Similarly with domestic animals. Though in some cases—as that of dogs—community of origin will perhaps be disputed, yet in other cases—as that of the sheep or the cattle of our own country—it will not be questioned that local differences of climate, food, and treatment, have transformed one original breed into numerous breeds now become so far distinct as to produce unstable hybrids. Moreover, through the complication of effects flowing from single causes, we here find, what we before inferred, not only an increase of general heterogeneity but also of special heterogeneity. While of the divergent divisions and subdivisions of the human race, many have undergone modifications of detail not constituting an advance; while in some the type may have degraded; in others

it has become decidedly more heterogeneous. The civilized European departs more widely from the vertebrate archetype than does the savage. Thus, both the law and the cause of progress, which, from lack of evidence, can be but hypothetically substantiated in respect of the earlier forms of life on our globe, can be actually substantiated in respect of the latest forms.

If the advance of Man towards greater heterogeneity is traceable to the production of many effects by one cause, still more clearly may the advance of Society towards greater heterogeneity be similarly explained. Consider the growth of an industrial organization. When, as must occasionally happen, some individual of a tribe displays unusual aptitude for making a particular article of general use—a weapon, for instance—which was before made by each man for himself, there arises an inevitable tendency towards the differentiation of that individual into a maker of such article. His companions—warriors and hunters all of them,—severally feel the importance of having the best weapons that can be made; and are therefore certain to offer strong inducements to the skilled individual to make weapons for them. He, on the other hand, having not only an unusual faculty, but an unusual liking for making such weapons (the talent and the desire for any special occupation being usually associated), is predisposed to fulfil these commissions on the offer of an adequate reward; especially as his love of distinction is also gratified. This first specialization of function, once commenced, tends ever to become more decided. On the side of the weapon-maker continued practice gives increased skill—increased superiority to his products: on the side of his clients, cessation of practice entails decreased skill. Thus the influences that determine this division of labour grow stronger in both ways; and the incipient heterogeneity is, on the average of cases, likely to become permanent for that generation, if no longer. Observe now, however, that this process not only differentiates the social mass into two parts, the one monopolizing, or almost monopolizing, the performance of a certain function, and the other having lost the habit, and in some measure the power, of performing that function; but it tends to initiate other differentiations. The advance we have described implies the introduction of barter,—the maker of weapons has, on each occasion, to be paid in such other articles as he agrees to take in exchange. But he will not habitually take in exchange one kind of article, but many kinds. He does not want mats only, or skins, or fishing gear, but he wants all these; and on each occasion will bargain for the particular articles he most needs. What follows? If among the several members of the tribe there exist any slight differences of skill in the manufacture of these various things, as

there are almost sure to do, the weapon-maker will take from each one the thing which that one excels in making: he will exchange for mats with him whose mats are superior, and will bargain for the fishing gear of whoever has the best. But he who has bartered away his mats or his fishing gear, must make other mats or fishing gear for himself; and in so doing must, in some degree, further develop his aptitude. Thus it necessarily results that the small specialities of faculty possessed by various members of the tribe, will tend to become more decided. If such transactions are from time to time repeated, the increased specializations may become appreciable. And whether or not there ensues a distinct differentiation of one or more other individuals into makers of particular articles, it is clear that incipient differentiations take place throughout the tribe: the one original cause produces not only the first dual effect, but a number of secondary dual effects analogous in kind, but minor in degree. This process, of which traces may be seen among groups of schoolboys, cannot well produce any permanent effects in an unsettled tribe; but where there grows up a fixed and multiplying community, these differentiations become established, and increase with each generation. A larger population, involving a greater demand for every commodity, intensifies the functional activity of each specialized person or class; and this renders the specialization more definite where it already exists, and establishes it where it is but incipient. By increasing the pressure on the means of subsistence, a larger population again augments these results; seeing that each person is forced more and more to confine himself to that which he can do best, and by which he can gain most. This industrial progress, facilitating future production, opens the way for a further growth of population, which reacts as before: in all which the multiplication of effects is manifest. Presently, under these same stimuli, new occupations arise. Competing workers, ever aiming to produce improved articles, occasionally discover better processes or raw materials. In weapons and cutting tools, the substitution of bronze for stone entails upon him who first makes it a great increase of demand—so great an increase that he presently finds all his time occupied in making the bronze for the articles he sells, and is obliged to depute the fashioning of these articles to others: and, eventually, the making of bronze, thus gradually differentiated from a pre-existing occupation, becomes an occupation by itself. But now mark the ramified changes which follow this change. Bronze soon replaces stone, not only in the particular articles in which it was first used, but in many others —in arms, tools, and utensils of various kinds; and so affects the manufacture of these things. Further, it affects the pro-

cesses which these utensils subserve, and the resulting products —modifies buildings, carvings, dress, personal decorations. Yet, again, it initiates sundry manufactures which were before impossible, from lack of a material fit for the requisite tools. And all these alterations react on the people—increase their manipulative skill, their intelligence, their comfort, — refine their habits and tastes. Thus the evolution of a homogeneous society into a heterogeneous one, is very clearly consequent on the general principle, that many effects are produced by one cause.

Our limits will not allow us to trace out this process in its higher complications; else might we show how the localization of special industries in special parts of a kingdom, as well as the minute subdivision of labour in the production of each commodity, are similarly determined. Or, turning to a somewhat different order of illustrations, we might dwell on the multitudinous changes — material, intellectual, moral,—caused by printing; or the further extensive series of changes wrought by gunpowder. But leaving the intermediate phases of social development, let us take a few illustrations from its most recent and its passing phases. To trace out the effects of steam-power in its manifold applications to mining, navigation, and manufactures of all kinds, would carry us into unmanageable detail. Let us confine ourselves to the latest embodiment of steam-power—the locomotive engine. This, as the proximate cause of our railway system, has changed the face of the country, the course of trade, and the habits of the people. Consider, first, the complicated sets of changes that precede the making of every railway—the provisional arrangements, the meetings, the registration, the trial section, the parliamentary survey, the lithographed plans, the books of reference, the local deposits and notices, the application to Parliament, the passing Standing-Orders Committee, the first, second, and third readings: each of which brief heads indicates a multiplicity of transactions, and the development of sundry occupations—as those of engineers, surveyors, lithographers, parliamentary agents, share-brokers; and the creation of sundry others—as those of traffic-takers, reference-takers. Consider, next, the yet more marked changes implied in railway construction—the cuttings, embankings, tunnellings, diversions of roads; the building of bridges and stations; the laying down of ballast, sleepers, and rails; the making of engines, tenders, carriages, and waggons: which processes, acting upon numerous trades, increase the importation of timber, the quarrying of stone, the manufacture of iron, the mining of coal, the burning of bricks; institute a variety of special manufactures weekly advertised in the *Railway Times;* and, finally, open the way to sundry new occupations, as those

of drivers, stokers, cleaners, plate-layers, &c., &c. And then consider the changes, more numerous and involved still, which railways in action produce upon the community at large. The organization of every business is more or less modified: facility of communication makes it better to do directly what was before done by proxy; agencies are established where previously they would not have paid; goods are obtained from distant wholesale houses instead of near retail ones; and commodities are used which distance previously rendered inaccessible. Again, the rapidity and small cost of carriage tend to specialize more than ever the industries of different districts—to confine each manufacture to the parts in which, from local advantages, it can be best carried on. Further, the diminished cost of carriage facilitating distribution, equalizes prices, and also, on the average, lowers prices: thus bringing sundry articles within the means of those before unable to buy them, and so increasing their comforts and improving their habits. At the same time the practice of travelling is immensely extended. Classes who never before thought of it, take annual trips to the sea; visit their distant relations; make tours; and so we are benefited in body, feelings, and intellect. Moreover, the more prompt transmission of letters and of news produces further changes—makes the pulse of the nation faster. Yet more, there arises an extensive dissemination of cheap literature through railway book-stalls, and of advertisements in railway carriages: both of them aiding ulterior progress. And all the innumerable changes here briefly indicated are consequent on the invention of the locomotive engine. The social organism has been rendered more heterogeneous in virtue of the various new occupations introduced, and the many old ones further specialized; prices in every place have been altered; each trader has, more or less, modified his way of doing business; and almost every member of the community has been affected in his actions, thoughts, emotions.

Illustrations to the same effect might be indefinitely accumulated. That every influence brought to bear upon society works multiplied effects; and that increase of heterogeneity is a consequence of this multiplication of effects; may be seen in the history of every trade, every custom, every belief. But it is needless to give additional evidence of this. The only further fact demanding notice, is, that we here see still more clearly than ever, the truth before pointed out, that in proportion as the area on which any force expends itself becomes heterogeneous, the results are in a still higher degree multiplied in number and kind. While among the primitive tribes to whom it was first known, caoutchouc initiated but few changes, among ourselves the changes have been so many and varied that the history of

them occupies a volume.* Upon the small, homogeneous community inhabiting one of the Hebrides, the electric telegraph would produce, were it used, scarcely any results; but in England the results it produces are multitudinous. The comparatively simple organization under which our ancestors lived five centuries ago, could have undergone but few modifications from an event like the recent one at Canton; but now, the legislative decision respecting it sets up many hundreds of complex modifications, each of which will be the parent of numerous future ones.

Space permitting, we could willingly have pursued the argument in relation to all the subtler results of civilization. As before, we showed that the law of Progress to which the organic and inorganic worlds conform, is also conformed to by Language, Sculpture, Music, &c.; so might we here show that the cause which we have hitherto found to determine Progress holds in these cases also. We could demonstrate in detail how, in Science, an advance in one division presently advances other divisions — how Astronomy has been immensely developed through discoveries in Optics, whilst other optical discoveries have initiated Microscopic Anatomy, and greatly aided the growth of Physiology—how Chemistry has simultaneously opened the way to advance in our knowledge of Electricity, Magnetism, Biology, Geology—how Electricity has reacted on Chemistry and Magnetism, developed our views of Light and Heat, and disclosed sundry laws of nervous action. In Literature the same truth might be exhibited in the manifold effects resulting from the primitive mystery-play, not only as originating the modern drama, but as affecting through it other kinds of poetry and fiction; or in the continually multiplied forms of periodical literature that have descended from the first newspaper, and which have severally acted and reacted on other forms of literature and on each other. The influence which a new school of Painting—as that of the pre-Raffaelites—exercises upon other schools; the hints which all kinds of pictorial art are deriving from Photography; the complex results of new critical doctrines, as those of Mr. Ruskin, might severally be dwelt upon as displaying the like multiplication of effects. But it would needlessly tax the reader's patience to pursue, in their many ramifications, these various changes; here become so involved and subtle as to be followed out with some difficulty.

Without further accumulation of evidence, we venture to think our case is made out. The many imperfections of statement which brevity has necessitated, do not, we believe, militate

* "Personal Narrative of the Origin of the Caoutchouc, or India-Rubber Manufacture in England." By Thomas Hancock.

against the truth of the propositions enunciated. The qualifications here and there demanded would not, if made, affect the inferences. Though in one instance, in which sufficient evidence is not attainable, we have been unable to show that the law of Progress applies; yet there is high probability that the same generalization holds which holds throughout the rest of creation. Though, in tracing the genesis of Progress, we have frequently spoken of very complex causes as if they were simple ones; it still remains true that such causes are far less complex than their results. Detailed criticisms cannot affect our main position. Endless facts go to show that every kind of progress is from the homogeneous to the heterogeneous; and that it is so because each change is followed by many changes. And it is significant that where the facts are most accessible and abundant, there are these truths most manifest.

However, to avoid committing ourselves to more than is yet proved, we must be content with saying that such are the law and the cause of all progress that is known to us. Should the Nebular Hypothesis ever be established, then it will become manifest that the Universe at large, like every organism, was once homogeneous; that as a whole, and in every detail, it has unceasingly progressed towards greater heterogeneity; and that its heterogeneity is still increasing. It will be seen that as in each phenomenon of to-day, so from the beginning, the decomposition of every expended force into several forces has been perpetually producing a higher complication; that the increase of heterogeneity so brought about is still going on, and must continue to go on; and that thus Progress is not an accident, not a thing within human control, but a beneficent necessity.

A few words must be added on the ontological bearings of our argument. Probably not a few will conclude that here is an attempted solution of the great questions with which Philosophy in all ages has perplexed itself. Let none thus deceive themselves. Only such as know not the scope and the limits of Science can fall into so grave an error. After all that has been said, the ultimate mystery of things remains just as it was. The explanation of that which is explicable, does but bring out into greater clearness the inexplicableness of that which remains behind. However we may succeed in reducing the equation to its lowest terms, we are not thereby enabled to determine the unknown quantity: on the contrary, it only becomes more manifest that the unknown quantity can never be found. We feel ever more and more certain that fearless inquiry tends continually to give a firmer basis to all true Religion. The timid sectarian, alarmed at the progress of knowledge, obliged to

abandon one by one the superstitions of his ancestors, and daily finding sundry of his cherished beliefs more and more shaken, secretly fears that all things may some day be explained; and has a corresponding dread of Science: thus evincing the profoundest of all infidelity—the fear lest the truth be bad. On the other hand, the sincere man of science, content fearlessly to follow wherever the evidence leads him, becomes by each new inquiry more profoundly convinced that the Universe is an insoluble problem. Alike in the external and the internal worlds, he sees himself in the midst of perpetual changes, of which he can discover neither the beginning nor the end. If, tracing back the genesis of things, he allows himself to entertain the still unproved hypothesis that all matter once existed in a diffused form, he finds it utterly impossible to conceive how this came to be so; and equally, if he speculates on the future, he can assign no limit to the grand succession of phenomena ever evolving themselves before him. On the other hand, if he looks inward, he perceives that both terminations of the thread of consciousness are beyond his grasp: he cannot remember when or how consciousness commenced, and he cannot examine the consciousness that at any moment exists; for only a state of consciousness that is already past can become the object of thought, and never one which is passing. When, again, he turns from the succession of phenomena, external or internal, to their essential nature, he is equally at fault. Though he may succeed in resolving all properties of objects into manifestations of force, he is not thereby enabled to realize what force is; but finds, on the contrary, that the more he thinks about it, the more he is baffled. Similarly, though analysis of mental actions may finally bring him down to sensations as the original materials out of which all thought is woven, he is none the forwarder; for he cannot in the least comprehend sensation—cannot even conceive how sensation is possible. Inward and outward things he thus discovers to be alike inscrutable in their ultimate genesis and nature. He sees that the Materialist and Spiritualist controversy is a mere war of words; the disputants being equally absurd—each believing he understands that which it is impossible for any human being to understand. In all directions his investigations eventually bring him face to face with the unknowable; and he ever more clearly perceives it to be the unknowable. He learns at once the greatness and the littleness of human intellect—its power in dealing with all that comes within the range of experience; its impotence in dealing with all that transcends experience. He feels, with a vividness which no others can, the utter incomprehensibleness of the simplest fact, considered in itself. He alone truly *sees* that absolute knowledge is impossible. He alone *knows* that under all things there lies an impenetrable mystery.

Art. VI.—The Danubian Principalities.

1. *La Roumanie, après le Traité de Paris.* Par B. Boeresco. Paris. 1856.
2. *Finances de la Valachie, Journal des Economistes. Avril,* 1855. Paris.
3. *Les Principautés Roumaines devant l'Europe.* Par A. Sanejouand. Paris. 1856.
4. *Mémoires pour servir à l'Histoire de la Roumanie.* Par César Bolliac. Paris. 1856.
5. *Les Principautés devant le Congrès.* Par P. Bataillard. Paris. 1856.

UNFORTUNATELY for the cause of those continental states whose situation has at various times called forth the active sympathies of the English people, information has generally either been altogether wanting, or it has been withheld so long as to prevent it from exerting its legitimate influence. A tacit sanction has been given to political blunders, and England has gained but too frequently the unenviable reputation of being anile in foreign politics, or ungenerous and unsympathizing towards continental nationalities. Whatever may be the cause to which this national failing of England may be assigned, there are so many proofs of its existence, that denial is useless. We trust our foreign relations too much to one head, and allow secrecy to prevail so far that the public can have no voice. Mischief is done before any one knows it. War and peace are made without the knowledge or perhaps consent of the country, and struggling nations are crushed before we can hear their cry of distress, or at all events before fit means can be adopted for saving or consoling them. We trust that the time is not far off when England will be freed from this reproach, and foreign states will learn that when a truly national and deserving cause is advocated before the great diplomatic courts of the West, the voice of Englishmen will be heard sympathizing with liberal desires, and will not be choked by reason of ignorance or blindness. England has been accused also of looking to material interests as the motives of conduct, and measuring her support by the probabilities of gain. We believe that if England is to be moved at all, it is by an appeal to her generosity and sense of right; and that—correctly informed—she will invariably adopt the course which justice dictates, and which a generous nature would re-

commend. Such an appeal is now made to her on behalf of the Principalities of the Lower Danube, and it behoves her to pursue a liberal and disinterested course in her decision, inasmuch as that decision will have great weight in the councils of the cabinets of Europe, and will practically solve a question either favourably or unfavourably which involves the political future of a people on whose behalf our recent conflict with Russia was ostensibly undertaken.

Nor is it needless to point out of what importance it is to us to gain support and sympathy amongst the people of at least one race in the Levant. The chief sphere of our foreign policy for the next twenty years will be in the East. It is in the East that the rival nationalities of the West must meet. The diplomatic world strives at Constantinople for influence and power. A perpetual struggle is carried on, in which individuals and their intrigues are of much more importance than the lasting welfare of nations.

Unfortunately the opinion has gained ground, covertly favoured by the friends of Russian or Austrian ascendency in the East, that the interests of the Moldo-Wallachians cannot be advocated in the liberal and straightforward sense that is desired except at the expense of the integrity and independence of the Turkish Empire. We shall have occasion to show, beyond all possibility of disproof, that this opinion is utterly unfounded. The integrity and independence of Turkey being now guaranteed by the European powers, those who argue that the reorganization of the Principalities threatens that integrity and independence, merely assert that the European powers are unable to perform what they promise, or suppose that a nation, which they assume to be comparatively feeble, will be too strong, not for Turkey only, but for the whole Western world.

Let us rapidly sketch the inner life of the Danubian countries. The plains watered by the Lower Danube have been frequently overrun, but never permanently occupied by any but the original colonists of Trajan's time. Although the Roumans were from the earliest age surrounded by races of different birth and civilization from their own, and often driven from the cultivation of the valley to the safer fastnesses of the Carpathian hills, they always succeeded in repelling the attacks that were made upon them. In these contests, whether with Asiatic barbarians during the middle ages, or with Poles or Hungarians somewhat later, they showed their martial qualities to be equal at least, if not superior, to those of their opponents. They had the double advantage of being soldiers and cultivators of the soil. They were united by a tie of language and traditions more respectable perhaps, certainly more homogeneous and durable, than any that gave cohe-

sion to neighbouring peoples. They were valiant defenders of Christianity and civilization against the Ottomans, at the time when the great Sultans had swept the right bank of the Danube up to the gates of Vienna of all opponents; and these very Sultans, respecting their bravery and martial attitude, carefully guarded their rights and independence, adopting in principle that policy which is violently opposed by their degenerate descendants. They saw a people martial, free, and numerous enough to make a stand against Pole or Hungarian; they fostered their independence, and made them a barrier for their own possessions on the Danube. It was then that the foundation was laid for that connexion of suzerainty between Moldo-Wallachia and the Porte which is the basis of Rouman public law. That the Moldo-Wallachians were acknowledged to be independent and self-governed by the great Sultans, the following extracts will sufficiently show:—

The treaty concluded between Mircea I. and Bajazet I., at Nicopolis, in the year 1393, declares:—

"Art. 1. That the Principality (of Wallachia) shall be governed by its own laws, and the Prince of Wallachia shall have the right to make peace and war, and the right of life and death over his subjects.

"Art. 4. Their Christian princes shall be elected by the metropolitan, the boyards, and the nation.

"Art. 5. But . . . the Prince, because we have inscribed him in the list of our subjects, shall pay yearly to our Imperial treasury 3000 red piastres of the country, or 500 piastres of silver of our money."

A new treaty, confirming the old, was made by Vlad. V., at Adrianople, in 1460, by which the rights of self-government in Wallachia were again affirmed, with this significant clause (Art. 2)—"That the Sublime Porte shall have no meddling in the local administration of the said Principality, and no Turk will be allowed to go into Wallachia without an ostensible reason."

A few years later, Bogdan, Prince of Moldavia, concluded a treaty with Selim I., and the Porte then declared (1513):—

"Art. 1. That Moldavia is a free and not a conquered country.

"Art. 4. That Moldavia shall be regulated and governed by her own laws, without any intermeddling on the part of the Sublime Porte.

"Art. 5. Her princes shall be for life, elected by the nation, and confirmed by the Sublime Porte.

"Art. 6. The dominion of the princes shall extend over the whole Moldavian territory. They may have in their pay an

armed force amounting to not more than 20,000 natives or foreigners.

"Art. 9. In sign of submission, the prince, jointly with the nation, will be careful to send to the Porte by two Moldavian boyards 4000 Turkish ducats, or 11,000 piastres, 40 hawks, and 40 mares in foal, all as presents."

This treaty was confirmed and extended by another between Pierre Rarés, Prince of Moldavia, and the Sultan Soliman the Magnificent, in 1529.

Thus the Principalities came under the suzerainty of the Porte, without losing internal freedom, and maintaining to a great extent their national independence. They had their standing armies, which the Turks of the present day affect to consider an impossibility, and ruled without reference to any foreign power. They were as free in church and state as ever. But this suzerainty of the Porte was not submitted to without long and sanguinary struggles. The names of Michael the Brave, Stephen the Great, and other princes, are enrolled in the annals of their country in connexion with victory and deeds of military fame.

But the Porte, not content with her suzerainty, violated in deed stipulations which she never denied in principle, and thus, amongst other encroachments, she proceeded to erect fortresses, and to garrison them with her own troops, leaving the Moldo-Wallachians to the mercy of a set of men noted in the history of armies as the most turbulent and bloodthirsty of the time. Flinging themselves in despair, sometimes into Austrian, sometimes into Russian alliance, the Principalities did not improve their political prospects; and the Porte, by substituting for the princes of the nation's choice men elected at Constantinople out of the Greek families of the Fanar, not only imported a foreign element into the country, but laid the foundation of the numerous houses whose religion and ties of kindred rendered them as friendly to the increasing power of Russia as they were in reality dangerous to the Turks and oppressive to the people of Moldavia and Wallachia.

The Greeks flocked to Bucharest. The Roumans, faithful to their old traditions, had for many years been the most enlightened people of that portion of Europe. They had imparted their civilization to their future enemies, the Russians. They gave such an impulse at least to arts and sciences, that, through their universities, the Greeks learnt to know the old glories of their own race, and conceived the idea of their own regeneration. But the Greeks of the Fanar wielded power with no wise or friendly hand. Chosen at Constantinople, not according to their merit or abilities, but in return for the largest bribe that could

be gained, the Fanariots had no interest of good name or hereditary descent to lead them towards good government. On the contrary, peculation was at a premium. What was power to them but a life tenure, of which they were bound to make as much money as would place their children in affluence? Accordingly, the history of the Fanariot princes is coupled with every species of disaster peculiar to bad government. Venality and extortion were the leading crimes of each succeeding governor, and the effect was to reduce the Principalities to such a state of wretchedness, that any government would have been welcome in preference. Public liberty disappeared, for the army and assembly were suppressed; venal public servants taking the place of the latter, and Arnaouts that of the former. Law and justice were bought and sold. Trade declined, for there were no roads and no communications—landlord and peasant equally suffered from exaction. The Roumans underwent the evils of this system under thirty-six successive governors, and learnt to hate the very name of Greek. The religious cry of Ypsilanti, in 1821, therefore found no echo in their breasts. They rose in arms against their governors, but refused to join the Greek adventurer, saying that the cause of Greece was not their cause—that they wished not to abandon the suzerainty of the Porte, but only to shake off the oppression of foreign governors, and be reinstated in their old rights.

Turkey was unable or unwilling to be grateful, or to reap the reward of Rouman loyalty. The Porte, it is true, surrendered the government of the Principalities to native princes, abandoning the system of Fanariot hospodarates; but as she maintained her army in the country, her first partial return to international right was of no avail, all its good effects being neutralized.

The cabinet of St. Petersburg seized the occasion to appeal against the Turkish occupation; and the Porte, accustomed of late to yield, signed the convention of Akermann, and consented to the withdrawal of its troops. This convention unfortunately gave the Government of the Czar an opportunity to meddle in the affairs of the Principalities such as it had never previously enjoyed. The Roumans were rid of Turkish soldiers, but fell under Russian protection, the new convention having stipulated that the princes were henceforth to receive investiture from the Porte, but were irremovable without the consent of Russia.

At first, however, the protection of the Emperor appeared to have advantages. To a people previously ground down by misrule such as that of the Fanariot, one step towards a better state of things was accepted as an amelioration; and the re-assertion of the right to elect princes, even though it were but for seven years, and clogged by the conditions already mentioned, was a really tangible progress. When, however, the increasing demands

of Russia in 1828 led to a harassing war between it and Turkey, during which Moldo-Wallachia became a Russian camp, subject to all the exhausting influences of an occupation, the advantages gained by the convention of Akerman were felt to have been dearly paid for. The treaty of Adrianople, so humbling to Turkey, finally gave the Government of St. Petersburg preponderating influence at Bucharest. It ostensibly stipulated in favour of the Roumans the confirmation of all their old privileges by the Porte,—restoring to them princes elected for life, a national and independent administration, freedom of religion and of trade. It further enacted that a constitution, to be called Réglement Organique, should be drawn up by a national assembly, and that the power of the princes should be constitutionally wielded through a representative parliament and responsible ministers. But over these wise arrangements hung the Russian protectorate; mild at first, because of the man who wielded it, but intolerably oppressive as years passed on. General Kisseleff re-organized the Principalities between 1829 and 1832, and the orderly exercise of authority contrasted favourably with past confusion; but men less wise and less prudent than he were his successors. The Russian consuls-general in the Principalities assumed the power of the state, the representation of the country was destroyed by the dissolution or suspension of the assemblies, and Russian rule again appeared in all its worst and most baneful features. A revolution broke out in 1848, and once more the national sentiment was exhibited by an effort to found a better system of Rouman government.

Several great truths stand out clearly after this statement of facts. The Roumans never at any time lost the instinct of their nationality. When Turkey pressed too hard upon them, Russia tendered them her support. When Russia sought to implant her own peculiar system of despotism, under the plea of protection, they revolted. This revolution is a great symptom of the vitality of Rouman traditions and desires. If it had no other result than to prove that Moldo-Wallachia, disarmed and defenceless, after a century of misgovernment and repression, still cherished its old and time-honoured institutions, free alike from the interference of Turk or Russian it did as much as could be expected. Turkey, with the imbecility which has so frequently marked her policy for the last hundred years, joined the Russians in crushing the liberal and peaceful desires of the Principalities, and then handed back to Russia that power and influence which it required the united efforts of the Western Powers—the loss of hundreds of thousands of men to reconquer. As the power and vitality of Turkey waned, the life and vigour of her external and internal policy of course correspondingly declined; and notwithstanding

the example set by the first great suzerains of Moldo-Wallachia, who kept those countries strong that they might act as frontier guards on the Danube, she strove by all the means at her command to weaken the allegiance of the Roumans and render them hostile. The sketch which has just been given of the connexion between Turkey and the Principalities discloses many, but not all, the weak points of Turkish policy. It was not Russia alone that profited by the follies or necessities and disasters of the Porte—that gained supreme command over the Government of Moldo-Wallachia: Russia annexed the fertile province of Bessarabia; but Austria, equally greedy, more penurious, and scarcely less clever, lopped off the Bukovina from the old Rouman possessions, and incorporated with her heterogeneous empire,—bound to her by no tie of language, religion, or sympathy,—a vast number of industrious labourers and thrifty people.

The Moldo-Wallachians are therefore not to be considered as a nation confined within those narrow limits which are the boundaries of Russian or Austrian custom-houses; but in order to show their influence as a race, their number as a population, they must be taken as they occupy not only Moldavia and Wallachia, but the adjoining countries: for it is to be borne in mind, in discussing the question of preponderance in those regions, that the Roumans are anti-Sclavonians—passionless as regards the Greek faith, for which the Russians, the Austrian-Sclavonians, the Servians, Bosnians, and Bulgarians are willing almost to barter all political liberty—and therefore the only race fitted to oppose an effectual barrier to that Pan-Russism which threatened us so long on the Danube, and which will continue to threaten us unless some broad and comprehensive policy is adopted by the Western Powers to render Moldo-Wallachia powerful, self-governed, and self-defended.

Wallachia and Moldavia, as at present limited, contain a population of five millions of souls sparsely scattered over an area of 5725 square leagues. More populous than Belgium, and three times as large in extent, these Principalities are capable of an immense increase under an orderly government and a new system of administration. The Rouman influence—the national spirit of a race which is as anti-Russian as it is anti-Austrian—spreads far beyond the limits of Moldavia and Wallachia. In Transylvania, out of a population of 2,600,000 souls, 2,000,000 are Roumans. In the Bukovina, out of 500,000 inhabitants, 300,000 are Roumans. In short, in the Austrian provinces of Transylvania, Bukovina, and the Banat, there are four million Roumans. In Bessarabia, out of a population variously estimated at 600,000 to 1,000,000 of souls, nine-tenths of the people

are Rouman. Roumania is rooted not only in Russia and Austria, but when bad government forced the people to emigrate and settle on some portion or other of the vast wastes which still border the Danube, powerful offshoots were thrown out into Turkey and Servia.* A national government would nearly double the population of the Principalities in a few years by merely favouring the return of its wanderers. Who can doubt that the Rouman peasant of Bessarabia or the Bukovina would prefer the rule of his countrymen to that of Russia or Austria,—that the Wallachian emigrant of the Danube would seek to return to his own country? But, above all, who can doubt the change that would take place in Transylvania, where, as we know, upwards of two-thirds of the people are Rouman?

Ten years of good government would repeople Moldo-Wallachia, and would form as powerful a country as could be desired on the Lower Danube. Need we point out what might result from thus strongly founding this old nationality? It is sufficient to remark, that that people would be double the number of the Belgians; and that for ages there need be no limit to their increase, for the fertility of their soil is only equalled by its extent. We should have a large consuming country within the circle of our maritime communications as easily accessible as Piedmont, twice its size, and superior to it even now in population,—far more useful commercially than Switzerland, or any of the inland states of Europe for which we exert the powers of our diplomacy at intervals, and certainly more likely to be of importance to us than Persia, whose hostility put our Indian empire in a ferment, our armies and navies in motion, and statesmen in fear for our "north-western frontier."

One country not far distant from Moldo-Wallachia, peopled by men of the same religious faith, has been omitted in this enumeration. We allude to Greece. And it has been argued by many that England has had too sad an experience of the ingratitude of a nation, in the case of Greece, to be found again favouring nationalities, which were no sooner raised to a rank in the hierarchy of states than they exercised their little power in thwarting everything that was English in policy and favouring everything that was Russian. Before comparing Greece and Roumania, and consigning the second to limbo because of our grievances against the first, we must be satisfied

* 40,000 families emigrated from Wallachia into Servia, and settled there, between 1831 and 1850. In Bulgaria, upwards of 100,000 families have settled since 1831. Previous to 1831, 30,000 Bulgarian families had settled in Wallachia, but were forced back to their own country by ruinous enactments.

that there is a point of comparison between the two. Greece is a small state of 60,000 souls, which has never known anything of Russia but her diplomacy and smiles: Greece has never seen a Russian army, nor has she been called upon to feed one: Greece is peopled by men fanatical for the faith of which the Czar is the political head. Greece has, therefore, had no experience of those evils which make the Roumans and Russia hostile. Moldo-Wallachians are not fanatical for the Greek faith. With them popes and patriarchs are at a discount. But besides this, Greece is a barren rock, the population of which knows nothing of social life, but the slavery under which it has been ground for centuries,—ignorant of cultivation in every sense of the word, living chiefly by brigandage and piracy,—having no ideas, no sentiments beyond those of blind hatred for the Turks, and blind admiration for the Russians, whom, until lately, they considered as the scourge of the Ottomans. To compare Greece and Moldavia is, therefore, illogical; yet we may be permitted to draw one inference from the fact that Greek nationality has been founded. Greece is certainly a hundredfold more happy now than it was before the declaration of independence. The Greeks may not be deserving of this; but is their blind partiality for Russia to be used as an argument against supporting the Moldo-Wallachians in their effort for regeneration?

The Roumans should have the sympathy of Englishmen, for their country is one of the few in which constitutional checks have long existed, and have never been completely obliterated. Their habits as a people are European and Western, social, civilized, and peaceful. Agriculture is their specialty, and fertility the character of their soil. Such is the extent and richness of their territory, that there can be no limit to production except that of demand.* England would certainly find there an outlet more secure and more fruitful than any other in Europe. Not only its manufactures, but its capital must find customers there; for in consequence of the total neglect of industry and art, resulting from bad government, many years must elapse before such progress can be made as will render recourse to the West unnecessary. Even now, when the Principalities stand in a precarious and doubtful position, the annual amount of imports and exports exceeds that of Turkey, with whose trade returns those of the Principalities are usually confounded. This is due to a simple cause. In Turkey the state of civilization is lower and the wants of the people fewer than in the Principalities. But the demand for the necessaries of common life, such as manu-

* The agricultural revenue of the Principalities is valued at 230,000,000 of piastres, or about £2,200,000 per annum.

factures of cotton and iron, was, and is still, trammelled by arrangements which are fatal to trade. These arrangements are of two kinds, and consist of measures which, by crippling the export trade of the country, tend to limit its productive powers, and of difficulties wrongfully and improperly thrown in the way of importation.

A glance at the Turkish tariff regulating the trade of the Principalities will lead to the belief that all goods are free to enter or leave Moldo-Wallachia on paying an *ad valorem* duty of three per cent. Merchants at Galatz and Ibrail, however, know that the tariffs are in reality worked into a series of extortionate and illegal charges, resulting from the bad government which it is the policy of Austria and Turkey to keep in force. In the first place, by a general measure the tariff of duties has been improperly raised from three to five per cent. *ad valorem.* Then the several branches of duties are farmed out to the highest bidders, whose familiarity with the intricacies of the code enable them to make all kinds of supplementary, exceptional, accidental, and illegal charges, the result of which tends to perpetuate a system of *bonus* and bribery by no means favourable to commerce. The *ad valorem* charges weigh especially on the exports of the country; for the farmers of the corn, silk, salt, or cattle dues invariably insist on arbitrarily fixing the price of those articles far above their real value. Take, for example, silk, arbitrarily raised in valued price from eighty-four to a hundred and twenty piastres (the Wallachian piastre is worth a little less than fourpence), and lard raised to ten shillings a pound, or far more than it is worth. Add to these difficulties others of a technical kind, which cause the same dues frequently to be charged two or three times over before the means of transport at command can be obtained to send goods inland, and there will appear reasons sufficient for a languid and irregular trade. In this, as in other branches of the administration of the Principalities, the greatest irregularity prevails; and this irregularity is an additional cause with many others for the desire of the Roumans to have a good and central government amenable to constitutional checks, and possessed of sufficient vigour to reform abuses. When Russian influence was all-powerful in the Principalities, and when Russia ostensibly and ostentatiously interfered for the benefit of the Roumans, the unswerving course of her commercial policy was to impede the Danubian trade, and thus damage Moldo-Wallachia. The Russians not only countenanced all the illegalities which impeded the import and export trade of the Danube, but they also increased the difficulty by obstructing the navigation of the stream. The result was the rise of Odessa to a height of prosperity as sudden as it was

remarkable. Odessa became a corn-exporting port, whose trade in that commodity expanded until it could expand no longer. When the limited area within which it was profitable to send corn to Odessa was exhausted, the trade of the Danube began to increase, notwithstanding all artificial impediments. The abolition of these, and the regulation of customs and port dues under a new system, will materially add to the trade and prosperity of the Principalities.* Such reforms as these, coupled with a revision of taxation, are amongst the elements of future Rouman progress,—most important and necessary. There is in the provinces, as in most other States, direct and indirect taxation, each producing an equal share of a revenue which scarcely amounts to 600,000*l.* per annum for the two Principalities. Out of this small sum the Porte receives its tribute, and the expenses of government are defrayed; but the fiscal system is so bad, that in order to raise a sum so small an endless amount of screwing and extortion exists. The revenue from indirect taxation is farmed out, and the lessees, generally Greeks, make their fortunes. Then there is a series of exemptions from direct taxation, such as we read of in the history of more advanced States as having been long since abrogated. A few examples will suffice. They are drawn from the statistics of Wallachia. The clergy, including popes or full priests, deacons, and all inferior orders, are exempt from capitation, as well as all their families. The Boyards and other nobles, officers in the employment of Government—in the militia—servants and gipsies, are all free from direct taxation. Add to these 4500 monks, 14,000 durobantz and other soldiers, 188,000 widows and their families; the total is upwards of 500,000 souls exempt, amongst whom are included all the wealthy classes of the country. The *noblesse* and the clergy are owners of the land; and it is computed that the monasteries of the Principalities are endowed with one-third of the whole extent of the country. The revenues of these establishments are thus derived from a territory as extensive as Belgium, and of them it may be remarked that the total amount is spent in

* The Principalities export annually about five million quarters of corn and bread-stuffs—of which, in 1852, one-fifth was shipped to England. The importationsof the United Provinces are estimated at 137,613,000 piastres, or about £2,000,000 annually. The exports on an average of ten years, from 1837 to 1847, are as follows:—

Cereals	85,180,000 piastres,	or about	£1,200,000
Horses and cattle . .	43,200,000 „	„	600,000
Wood, wool, hides, tallow, wax, flax, wine	31,500,000 „	„	440,000
Salt	8,000,000 „	„	112,000
	167,880,000 piastres,	„	£2,352,000

the support of Greek churches in the Levant and in Russia, altogether distant from and foreign to Moldo-Wallachia. The application of these revenues to other and more national purposes is desired by all classes of the Roumans, and would be a subject of immediate legislation under a new order of things.

The Principalities are countries of natural production. No land can be compared to it for fertility; but natural productions are useless without means to dispose of them. There is no metallic road throughout either of the Principalities, and the want of communication may be judged from the fact that a nobleman travelling in any of the winter months can barely proceed from one point to another, although as many as sixteen horses and three postilions are put to the work. When pleasure traffic is thus difficult, commercial transit is impossible. The Wallachian Government spends about 3000*l.* a year on roads, and employs six days' labour of every head in each family to render them passable; but the result, as may be conceived, is little or none. What an incalculable amount of agricultural produce might find its way to a profitable market, need scarcely be pointed out.* But the establishment of roads and railways would not alone bring corn, tallow, and hides to market; it would make an outlet for the rich minerals of the Carpathians, which comprise mercury, antimony, copper, gold, silver, man-

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* As an instance of the expenses of carriage, take that of bringing wood to Bucharest for fuel:—

Three miles from Bucharest—		
Value of wood per sagène	90	piastres.
Carriage	20	„
Total	110	„
Twelve miles from Bucharest—		
Value of wood	50	„
Carriage	60	„
Total	110	
Twenty-four miles from Bucharest—		
Value of wood	30	„
Carriage	80	„
Total	110	„
Forty-eight miles from Bucharest—		
Value of wood	8	„
Carriage	102	„
Total	110	„

ganese, saltpetre, lead, gypsum, and tin; it would bring into use the virgin forests which cover one-sixth of the land of the Principalities. One of the marvels of Roumania is the branch of the Carpathians which forms the district of the Salt-Rimnic, a river which becomes impregnated with saline matter, by its passage through a chain of salt-hills, thirty miles in extent, and entirely devoid of vegetation. Another of these marvels is the bitumen spring, which flows at Kimpina. The commerce and natural products of this country are thus crippled by irregularities of the tariffs, by want of roads, and by other causes of a political nature. The same immobility characterizes transactions in money. There is not a bank in the provinces; the currency is gold and silver, in which all payments are made; and the only paper-money we ever saw there was imported in the shape of paper kreuzers by the Austrian army of occupation, which no one would take; paper roubles by the Russian army of occupation, which were forced down people's throats; and paper *beshliks* or *irmiliks*, issued specially from Constantinople to pay the Turkish army, and rejected by every one as representing little or no value. The Turks, as every one knows, have little or no idea of finance, except its most dangerous tricks; and the history of their notes first issued to Constantinople, then to the army of Asia, and lastly to the army of Bulgaria, all of which notes had forced currency in three different localities, but were not exchangeable for each other, and not legal tender for the payment of taxes—is one of the most curious in the world.

Cash transactions being alone possible in such a country, money is dear, and usury rampant. Landlords do not improve, because they have no capital; nor can they raise the necessary funds for any purpose whatever, without imposing on themselves such a burden as must inevitably lead to ruin.

It may then be asked, with some show of propriety, whether it would not be advisable to change this unfavourable state of things by means calculated to give the country credit, trade, and communications—the elements without which prosperity is impossible? And it occurred to a great majority of Roumans that, inasmuch as the evils of which the Principalities complain were most crying under the administration of hospodars ruling at Bucharest and Jassy, and thus mincing into small pieces the trade, and the taxes, and the customs of a country whose people are identical in language and thought—it would be advisable to change that mode of administration;—that, as the Principalities had been placed under the guarantee of the Western Powers, it would be desirable to consolidate their government, to unite their people, and simplify the machinery

of government. They were the more impressed with the necessity of such a course, as it was evident that, under the system of double hospodarates, named by Turkey and protected by Russia, all the wrongs and ills of the Roumans had been inflicted; that Russian influence had well-nigh swallowed up those provinces, and would have done so had not the Western Powers stepped in to save them; that Turkey had certainly no power to protect them when the Russians crossed the Pruth; and that the system was altogether and radically defective. They knew that Turkey had, on more than one occasion, favoured the union of the Principalities, and they hoped to obtain her acquiescence in such a measure. They thought that they had given sufficient proofs of loyalty and affection to their suzerain, to free them from the suspicion that their motives would be misconstrued into hostility towards him. They knew the Porte to be aware that when General Gortschakoff offered the union in 1854, on condition that the provinces raised an army to fight the Turks, the Principalities indignantly refused. They fancied that the Sultan would admit that Moldo-Wallachia had been misgoverned, ground down, and unprotected, and that it would have been best for both sides to raise up a national party in favour of Turkish suzerainty, and hostile to Russian and Austrian encroachment.

These well-founded desires and hopes were misconstrued, or excited fears of sufficient magnitude to counterbalance every obvious advantage.

Turkey refused, and now objects to unite the Principalities; although she admits that the Roumans must be consulted as to their desires, and that their desires must be attended to. Divans have been resolved upon, in which all classes of Roumans are to be represented—not as fairly as might have been expected; and commissioners have been appointed, to see that the purpose of the Divans assembling shall not be nullified by intrigue or force. Turkey, in her view of this matter, has the approval of Austria, backed for some time past by the presence of an army of occupation—fortunately about to take its departure. France openly favours the union and reorganization of the Principalities. England's declaration is expected, but is at present withheld; and Russia has something to say in favour of union, but would probably clog the proposal with unacceptable conditions. On this last point, however, as we have no certain information, it is difficult to come to a definite conclusion. We could understand Russia favouring the union, provided a Greek prince of its own house, or acknowledging the Czar as his spiritual superior, were chosen to reign over the Principalities; but it need hardly be dwelt on, so self-evident is

the fact, that the Roumans would consider a prince of the character we have described as one so dangerous to their welfare that he would be unacceptable in every sense. Nor is it necessary to add, that a choice so unpalatable to the Roumans would be fairly looked on with suspicion by Turkey, by France, by England, and Austria. But, however we may be disposed to look upon Russian policy in the Principalities with distrust, the adoption of measures for insuring the foundation of Rouman nationality ought not to be interrupted for the sake of such considerations. Great material interests cannot be made subordinate to petty questions of men. There is every reason to believe that Russia will never be able to inflict the terrors of her presence, physically or morally, in the Principalities, and that a majority of the Western Powers will be found ready to advocate measures in favour of Rouman nationality free from the dangers of Russian encroachment and the risks of Turkish stupidity.

It is very difficult to conceive on what grounds the Turks base their opposition to the reorganization of the Principalities, unless we admit in her a desire to retain and perpetuate the abuses which have been so fatal to the prosperity of the Danubians. Taking the annual tribute of the Principalities at its highest figure, we find that the suzerain receives from the tributary a paltry yearly sum not exceeding 40,000*l*. Can the fear of losing this amount influence the councils of the Porte, and conjure up visions detrimental to her peace? Turkey does not legally derive any other advantages from the Principalities; but indirectly the ministers of the Porte wield an enormous amount of patronage, consequent upon the election of the princes at Constantinople. The Sultan has no other preferment to offer the rich Fanariot families, except places in Moldo-Wallachia; and these places have always been given to the highest bidder. Are the wishes and aspirations of a nation thus to be sacrificed to the enrichment of a few hungry pachas, whose harems and houses on the Bosphorus are only kept up by such means? But Turkey has been accustomed to wield power at Bucharest and Jassy—illegally, it is true; but still at times with effect: and she desires to keep that power, and fears lest an united Rouman administration might be less easy and less resistant. If that be a reason, there are serious grounds, certainly, for her resisting an union. The Powers have guaranteed that Turkey shall not meddle in the internal administration of the Principalities; therefore any hopes she might entertain of illegally influencing an united government would be diminished by one half. Then Turkey may have a desire to garrison the Principalities with her own troops, under the pretext of protecting them from Russia. But this being likewise illegal,

cannot be tolerated by any of the Powers. The Porte, however, affects to believe that the Roumans cannot, even for a day, protect their own territory. But until the population was disarmed, they did maintain their independence. Moldavia alone had an army of 20,000 men, and only suffered its well-known dismemberments after Turkey had left no means in the country to prevent them; Turkey—the protecting and guaranteeing power, being at the same time utterly incapable of protecting or guaranteeing anything. The necessary consequence of Turkish policy would thus be, to keep Moldo-Wallachia in a state of defencelessness similar to that which enabled the Russians, from 1812 to 1853, to enter the Principalities whenever they pleased—deprive the population of its means, its money and cattle, and reduce it to misery and want. Let the Roumans have but the same chance of governing themselves as the Servians had, and see what the result would be. Servia borders on Austria, and pays tribute to Turkey. The Porte, in return, promises to let her govern herself: she reserves to herself the right of garrisoning Belgrade. Austria is to Servia what Russia is to Moldavia. But we are not aware that Austria is now one whit nearer absorbing Servia than she was on the first day of the declaration of independence. And as for the Turkish garrison of Belgrade, it does not defend Servia from a foreign enemy. It is a handful of men kept by the Porte, contrary to her own real interest—like a fly on a bull's shoulder, irritating, keeping the blood hot, and doing more to make the name of Turk hated than any measure which might be adopted. Yet this is the policy to be pursued in Moldo-Wallachia—with what consequences it is needless further to dwell on.

The Porte again will object that an union is undesirable, because jealousies would instantly be created between the capitals of Bucharest and Jassy, and the rivalry would produce a virtual separation co-existent with apparent union. Cannot the Porte observe that if such rivalry really existed, and it were found necessary to choose a new capital, common to the two Principalities—one nearer Galatz and Ibrail than Bucharest—further from the Russian frontier than Jassy,—the country would gain materially in safety, and one of the foci of Russian intrigue, from which such disasters are dreaded, would be at once abolished. Jassy is at present defenceless; Bucharest distant from the mouth of the Danube. A central position, with intercommunication by rail, would secure political independence and favour commercial enterprise. These are advantages as obvious as the objections of the Porte are the contrary; for we do not believe that any such jealousy as that which is supposed to be probable is on any ground to be feared.

But Turkey cares nothing, apparently, for commercial advan-

tages, or for material progress. The testimony of every man who has visited that country is unanimous to this effect—that, with a liberal tariff, there is no custom-house where more infractions and evasions of the law are perpetrated, because there is no check or no control over the rapacity and corruption of the farmers of the revenue. With treaty obligations which bind the governors of the Christian provinces to a certain liberal course towards those Christians, the Christians remain up to this moment subject to all the disabilities provided against by those treaties, because the Government of the Porte has no control over the corrupt tendencies, the fanaticism, or listlessness of her provincial governors. Turkey, in this state of things, may almost be pardoned for being blind to the suicidal folly of the course she would pursue on the Danube—a course likely, if it succeeded, to perpetuate the abuses so long complained of, and precipitate a catastrophe which all well-wishers to Turkey would avoid.

That Turkey is careless of her own advantages, or hopeless of curing the diseases which abound in her constitution, is evident, from her support of Austrian predominance on the Danube. No power has more to gain than Turkey by making that noble stream an open one for traffic. Yet she countenances Austria in the effort to keep the river a monopoly in her own hands. Under the present system, the trade of the two banks of the Danube affords one of the most curious anomalies that can be conceived. On the Bulgarian and Servian side, cotton, tobacco, tallow, hides proceed by land to Belgrade, from whence they pass in transit to Trieste, and there find a port of outlet. In the same way, on the Wallachian side, the trade runs in a direction contrary to the stream of the Danube, and natural produce finds an outlet also by a costly system of land transport. All this is profitable to Austria alone, for she is enabled, in exchange for the produce she receives, to draw off her manufactured articles of inferior workmanship, such as cloth, shoes, glass, coarse linen, tanned leather, hardware, metals, and thus to monopolize more than half the import trade of the two Principalities. If reference be made to the statistical table of imports into Moldavia alone in 1843, it appears that out of 680,000*l.*-worth of imports, the Austrian share was 408,000*l.*, or nearly half a million sterling. But Austria has not only material interests to serve by preserving the *status quo*—she has political reasons for dreading a change from the old and corrupt system hitherto pursued, to a national one which would give unity and freedom of action to the Rouman state. She fears lest the Moldo-Wallachians, under a constitutional government and representative institutions, may excite discontent amongst the Roumans of her own territories—men whose condition, as we have already described, is less comfortable

and happy than that of most other subjects of the empire. But is such a fear on the part of the Vienna Government to have weight in the councils of the Powers? and are the Roumans to be denied reforms in order to save Austria from a new Piedmont on her eastern frontier? Were such an argument permitted to prevail, it would afford a ready pretext for Austria to annex Wallachia altogether. And this is another of the dangers to be apprehended from maintaining a separation of the Principalities, that Austria and Russia may take advantage of the listlessness which too commonly prevails as to foreign affairs in England, and agree, during the slumber of the lion, to take—Russia, Moldavia; Austria, Wallachia,—and thus effectually and for ever carry out the policy which Turkey foolishly pursues at this moment. For it is evident that if the *statu quo* is maintained,—the provinces governed separately as before, and no national system of defence organized, no power in the world can resist an Austro-Russian occupation in time to effect any useful result.

Nothing has been said hitherto of the proceedings of the Porte and Austria in pursuit of the policy, on the explanation of which a few sentences have been expended. Austria occupied the Principalities in the summer of 1854, and maintained that occupation till now, taking into her hands the police and real government of the country. She was thus enabled to pursue her own policy to a certain extent in the Principalities, and her army indulged in that system of violence and plunder which is too well known to need recapitulation now. This occupation was of material assistance to Turkey, whose Government was upheld in a course so favourable to Austria by the most cordial support from Vienna. By the joint efforts of these two Powers, much has been done contrary to the spirit—much even contrary to the tenor of the Treaty of Paris. In the first place, measures were taken to check the expression of public sentiment in the population by the appointment of governors, called Caimacans, devoted to Austria and despotism. Prince Ghika of Moldavia, deposed long since at Jassy for misconduct, became Governor of Wallachia; Theodore Balsche, lately the humble servant and partisan of Russia, was made Governor of Moldavia; and under the auspices of these gentlemen the freedom of the press was abolished, the right of meeting was suppressed, the universities closed, and professors cashiered,—the exiles for liberal opinions kept out,—banks of credit withheld,—the navigation of the Danube and its tributaries interrupted,—the tongue and the trade of the Principalities locked up as much as ever. All this was contrary to the wishes of the Roumans—opposed to the expressed opinions of the majority at the conferences of Paris. France declared in

favour of an union, and was justified in so doing, because to allow her policy to remain any longer secret would have given such encouragement to Turkey in the course she pursued as might have produced irretrievable results much to be feared and deprecated. England, on the other hand, remained, and still remains, silent. We have very confident hope that this silence will be broken in favour of a change, and of liberal and national institutions to be extended to the Principalities. Up to the present moment, however, this has not been publicly shown; and it may be remarked as a bad sign, that on the death of Theodore Balsche, at Jassy, the Porte appointed a gentleman as retrograde as he was, namely, Mr. Vogorides, then Minister of Finance. The Porte thus appoints a Greek of Fanar, who cannot speak the Rouman tongue, at the very time when Europe is bound to expect fairness and justice on her part.

Necessity, says the proverb, makes us acquainted with strange bed-fellows. Perhaps political necessities make us lie at present with Austria; but it is much to be desired that this may not lead us to sacrifice great interests in the Levant—the welfare of a noble and rising nationality, as well as the honourable expressions of support and sympathy given to it by our own minister in the Congress of Paris.

Art. VII.—Literature and Society.

Memoirs, Journal and Correspondence of Thomas Moore. Edited by Lord John Russell. London: Longman and Co., 1853.

THOSE who were present at the first delivery of Mr. Thackeray's first series of Lectures will not readily forget the energy with which he girded himself up for the peroration. Raising his voice, and deepening in his earnestness, the great novelist seemed anxious that his concluding words should be remembered with a peculiar tenacity. There was marked silence and attention accordingly, as the following passages rang through the famous "Willis's Rooms:"—

"Long before I had ever hoped for such an audience, or dreamed of the possibility of the good fortune which has brought me so many friends, I was at issue with some of my literary brethren upon a point—which they held from tradition, I think, rather than experience—that our profession was neglected in this country, and that men of letters were ill-received and held in slight esteem. It would hardly be grateful of me now to alter my old opinion that we do meet with good-will and kindness, with generous helping hands in the time of

our necessity, with cordial and friendly recognition. . . . . To any literary man who says 'it [society] despises my profession,' I say, with all my might—no—no—no."

This was emphatic enough; but so little did it prove satisfactory to Mr. Thackeray's brother-authors, that he was soon after involved in a controversy with one of them in the newspapers about it. Since that time, little has been said on the subject at all. We do not re-open it now with any morbid wish to foster disputation; but as it really is a point involving a great deal of social and historical interest, we purpose to sketch the state of the question (with due regard to the limits at our disposal)—not under a pre-determination to support any theory one way or the other, but in hopes to contribute a few facts, and to pave the road for a settlement of it by-and-bye. It would be ungracious and ill-bred in any man of letters—moreover, it would be distinctly injurious to that calm which is necessary to the discharge of his common duties—were he to keep up a perennial growl because he fancied the world did not "appreciate" his class. At the same time, the man of letters and society both may learn something by contemplating their mutual relation at various times—which relation (as we shall see presently) likewise throws light on many questions of politics and social progress. Besides, it is a mere truism to say that literature in one shape or another is a growing power. We have seen the effects of journalism for good and for evil during the Russian war. Russia herself—as one result of that event—has begun to allow journalism freer scope, and to recognise its importance.* It is not, therefore, only a question of curiosity how the world and the *personnel* of this growing Power make it out together.

There seems to be a distinction by nature between men destined to reappear in all generations—a distinction of them into men of action and men of thought—men who do the world's work, and men who suggest it, influence it, record or delineate it. In the earliest ages we find king and priest, or king and poet, or king and prophet. Between them they govern the world. It is something like the relation of captain and master in a man-of-war. The captain commands the vessel of course, and the master is beneath him. But it is the master who takes the observations and watches the stars—who tracks the vessel's line on the chart and keeps the log—who is the captain's *alter ego*

* A St. Petersburgh journal (the *Atescher Froœ*—"Son of the Fatherland") observed in February last, "Everything depends now on our attempts to form a strong, powerful, strict and conscientious *public opinion*, a result which can only be brought about by the influence of the language *through the medium of the press and periodical literature*."—"*East of Europe Political Correspondence*," Berlin.

in all the important duties of his life—and who "cons" the good ship as she sails into the enemy's fire. When a loss happens they are tried together, and, as a general rule, acquitted or condemned together. In dangerous times, if the captain neglects his subordinate's advice, he may "give up charge," and his captain becomes responsible doubly by being now responsible alone. Some such alliance, we say, is that of the two primeval governing figures of the human race. The king remains with the same title to the last; the name of his colleague varies according to races and times. But we can still trace in Europe the two figures—the Frederick and the Voltaire—the Napoleon and the Goethe,—the man who acts and the man who talks or writes,—through all changes of name and form. Their respective degrees of greatness can never be determined, for both are absolutely necessary, and their difference is as natural as that of sex. In the last century, the tendency rather was to exalt, unduly, the writing man: at present, the tendency rather is the other way.

So much is clear, however, that in early stages of society the man of action and *his* men are more imperatively needful than the man of thought and his. Consequently, the first class acquire the supremacy, and are likely to keep it. Consequently, again, we find patronage in some shape existing as the form of the union down to quite modern times. And so absolute is the necessity of the man of action, that practically his superiority is admitted by everybody,—and often by nobody so cheerfully as the man who is set up as his rival for the world's dominion. There can be no question that Goethe thought Napoleon's courtesy a great honour, and that Scott never dreamed of his being a greater man than the Duke of Wellington. Nay, if we descend to the lower types of human excellence, we shall find the preference given, in England, by the public, to statesmen over philosophers, poets, and divines,—and given to soldiers and sailors even over statesmen of similar rank. This represents, we may be sure, some deeply-rooted instinct in human nature,—and as such the poet or philosopher will be the very first man to respect it.

But, of course, the question is how, at various periods, the governing active men have recognised and encouraged their brothers in genius? It seems certain that they have maintained the social superiority from the first,—that Romulus has taken precedence of Remus,—or rather that a historical primogeniture has given the Doer a place over the Seer. In fact, the latter has really been born later in time, since it is probable that the very earliest rulers of all united various functions in themselves. Without straining our eyes to see in ages where the faint morning light does not allow us to see distinctly, let us be content to know that the first poets all employ themselves in celebrating the first

kings, and that the first kings all seem to have loved and honoured song. The earliest form, then, in which "genius" was "appreciated" was in the *sacredness* which attached itself to the person of the singer; and it is curious to find that even modern "public opinion" (a very different thing from early worship) still attaches a romantic character to poetic renown over renown of more ordinary kinds. Young Lady Blanche, who marks her favourite passages in Tennyson with violets, is more like the old feudal or heroic women than she thinks, in this particular.

We shall not linger long over this primal kind of "social recognition." Suffice it, that it appears everywhere. With the Greeks, the slaughter of a poet was considered sacrilege;—he was a "servant of the Muses;" and his blood was avenged by oracles and gods. The comic writer himself (*not* generally a sacred character!) was esteemed by these same Greeks as "a person devoted to the service of Bacchus"—which he frequently was, in more senses than one. Aristophanes, when he is solemnly asserting his veracity, swears by Dionusos as his "Nourisher;" and Mr. Frere (in his excellent translation of him) speaks of the whole class as having "a certain character of inviolability" which helps to explain their licence. We know, too, that a similar character attached itself to the Northern Skalds,—and that the early minstrels went to and fro from hostile camps as neutral persons, protected by their poetic office. All this is remote from modern ideas, but is unquestionably true. And we can only understand the way in which early poets speak of early patrons by remembering that they sincerely loved and honoured them to a degree and in a way which we cannot fancy from anything we see *now*. Tom Moore's respect for Lady Holland was something very different from that which the authors of the old ballads had for the Nevilles and Percys.

Patronage—using the word in its original and honest sense—appears to have formed itself quite naturally in the classic as it did in the feudal world. Of the classical peoples, we may say that they honoured genius greatly, and treated it well. Socrates was a poor man, and not a man of family, but the long-haired and long-descended εὐγενεῖς lived on a brotherly or filial footing with him. The philosophers had plenty of patronage, and, if all stories be true, were not always pleasant fellows to patronize. "You have money, which I want;—I have wit and learning, which you want," said one of these plain-speaking gentlemen to his friend. Some of them lived loose about the houses of the great, and some at free quarters at the tables of the despots. If some became mere talkers, and buffoons, and parasites (which the comic writers make clear enough), why, that was only an abuse of the original principle, viz., the principle at the bottom

of all patronage—that Genius gives its possessors a claim upon Power. We know from Martial what servile scrubs some wits and philosophers were in his day. But this must not blind us to the real beauty of such a relation as that between Terence and Scipio for instance. Who does not remember the old story that the great patrician had been suspected of helping the poet in his plays,—and how gracefully the poet prides himself on such friends?—

> "Quod illi maledictum vehemens esse existumant,
> Eam laudem hic dicit maxumam: *cum illis placet,*
> *Qui vobis universis et populo placent.*"

Here we have Terence exactly stating the nature of the relation. He is proud of the friendship of the patrician, because the patrician is one of whom the State itself is proud. He is proud of being patronized by the destroyer of Carthage—the friend of Lælius—the patron of Polybius. He has a veneration for one who bears the name of a family on whose sepulchre is a marble image of the poet Ennius,—a family associated with the greatness and the glory of the Roman state. Patronage is *healthy*—precisely so long as the men of genius have this kind of reverence for the men of family; that is to say, so long as the men of family are *bonâ fide* the *principes*—the leaders of the nation. It is healthy while the primary institutions of the country are green, vigorous, and young; in short, it is healthy as long as it is instinctive. It was natural that Ennius should honour the elder Africanus, and Terence the younger one; but the nobles and their trenchermen of Juvenal's time were a different race of people.

The Roman potentates—in spite of the example of the Scipios—were slow in acquiring a real love for letters and philosophy. Thus Cicero, in his delightful speech for Archias, has to vindicate the general taste, and remind his audience of the way in which the poet had been received by the Luculli and Hortensii. Still there were encouragers of merit there, in this as in other departments. And—as we cannot estimate the condition of a class by the fortune of the lucky few at the head of it—let us see how the mob of those who followed study as their vocation in life fared. There is this to be said for the ancients in the matter—talent could free a man from slavery, and give him a career of decent prosperity. Indeed, we undertake to maintain that a manumitted Thracian or Syrian could get a better position in Rome than a manumitted Virginian negro could now acquire in New York. Turn to the well-known work of Suetonius, "De Illustribus Grammaticis." These *grammatici*—who were not *grammarians* merely, but performed general literary work—

sprang, many of them, from servile blood. Take Staberius, for instance: he was "emptus de catasta"—bought off the stage, or scaffold on which he was exposed for sale, and "propter studium manumissus,"—after which he taught, among others, Brutus and Cassius. A libertus of the Emperor Augustus had charge of the Palatine Library, and lived in intimacy with the poet Ovid and Licinius the consular. Several personages of rank had philosophers (men who had acquired their only civil position by their studies) living in their houses with them; and, judging from occasional passages in Cicero's letters, their position was a very good one. It seems odd—keeping a tame Stoic! But a tame Stoic in the house of a Roman statesman in the time of Cicero, was probably every bit as well placed as the chaplain of an English nobleman in the time of Swift.

The great Julius gave every encouragement to teachers of the liberal arts, especially by bestowing *civitas* or citizenship upon them.* And Augustus cherished the intellects of his age in every way.† The career of Horace, and how *his* patron Mæcenas has left a name synonymous with the word patron ever since, all the world is familiar with. It was not a relation so noble as that of Terence to Scipio, but it was an honest and a kindly one; and though we are no idolaters of Augustus, we believe he meant well and spoke seriously when he called the poet his "most delightful little man." Nor can we doubt, in spite of Juvenal's dismal "seventh," that the men of genius of the Empire were what the world calls "successful." Tacitus became consul, and Pliny governor of a province. Quintilian was opulent, and married well. Martial enjoyed a suburban villa, and drove handsome mules. These men deserved success. But Italy swarmed with so-called philosophers, wits, and *literati*, who were, many of them, babblers, flatterers, and diners-out; men ever ready to follow sham patrons—

"Per convivia, porticus, theatra"—

for the sake of the oysters of Baiæ and the wine of Setinum. The grave old patricians of the Cornelian breed were gone. It was an age of Trimalchion, and by none were they despised so heartily as by the rascally wags who laughed at their jokes, and gorged themselves on their wild-boars. Precisely the same transition had been made in Rome as was afterwards made in England, from the Earl of Arundel, who patronized Caxton, to the "full-blown Bufo," ridiculed by Pope. It is awful to think of men sitting opposite each other at table, with a secret mutual feeling that they are both playing the parts of humbugs!

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* Suetonius, "Jul. Cæs." 42. † Id. "Aug." 89.

So much for some of the more prominent features of the aspect of literature towards society in the classical times.

With the early feudal state of things we shall not occupy our readers long. The old singers who sang in the baron's halls

"The immortal deeds of heroes and of kings,"—

were a race of whom little is known, and whose "point of view" is unfamiliar to the modern mind. When we ask ponderous and erudite Du Cange what a minstrel was, the sturdy antiquary answers in this manner—

"MINISTELLI dicti præsertim scurræ, mimi, joculatores quos etiamnum vulgo *menestreux* vel *menestriers* appellamus quod minoribus aulæ ministris accenserentur . . . . ejusmodi scurrarum munus erat Principes non suis duntaxat ludicris oblectare sed et eorum aures variis avorum adeoque ipsorum Principum laudibus non sine assentatione cum cantilenis et musicis instrumentis demulcere."

And he adds—

—"ingens scurrarum et mimorum olim fuit in palatiis principum numerus."

"Buffoons," "servants," "mimics," "flatterers," &c. So the poor singers of Chevy-chase fare when a solid modern gentleman takes them in hand. But, in fact, all these heavy epithets were flung at them by the old churchmen and monks, just because they were so popular "in palatiis principum." Thus, when William the Conqueror had England to portion out, his "joculator" came in for a slice of land. The Scot Thomas the Rhymer seems to have lived on very jolly terms with the old Earls of Dunbar; and it is perfectly clear that these minstrels held the barons in the very highest honour. "In the ballads," says Mr. Thomas Wright, the antiquary, "the peasantry of England appear always loyal."* The peasantry of England would hardly have been such fools as to preserve their ballads, and sing them, had they not reflected their sentiments!

Probably the truth about the position of minstrels, &c., lies somewhere between the view of sentimental Percy and the view of sour Ritson. Open again the "Essays" of Mr. Wright,—no great friend of the feudal system. "The latter half of the twelfth century, and the beginning of the thirteenth," says he, "was the period when the feudal barons possessed the greatest power. It seems also to have been the age when literature was most patronized." The Normans loved song and wit, and two of the greatest English poets—Spenser and Byron—certainly came of their blood. As the word "minstrel" came to us through the French, we may naturally presume that the Norman barons were

* "Essays on the Middle Ages," ii. 166.

great encouragers of minstrels. But everything has its day. The grim Ritson cites a statute, 4 Henry IV., c. 27, where "*ministralx* ET AUTRES VAGABONDES" most assuredly figure. In Elizabeth's time they were sunk into the lowest grade. The great Selden's father was "a minstrel," and Wood interprets it "a common fiddler." They loitered about low taverns, and no longer began their "Listen lordings" to a hall full of Beauchamps and Montagus.

It will, perhaps, interest the reader if we inquire what degree of success fell to the father of English poetry—immortal Geoffrey Chaucer,—the friend, *protégé*, and connexion by marriage, of—

"Old John of Gaunt, time-honoured Lancaster."

Next to nothing is known about the position in which Chaucer was born, though it may be presumed that his birth was what we should now call "respectable." We may feel pretty sure, then, that his success in life was mainly owing to his genius. Now, what did that genius bring him in the way of reward from the State? Godwin—republican and radical, and not likely therefore to exaggerate in such a matter—shall tell us:—

"Besides his pension and his grant of wine, he had also the grant of a house near the Royal Manor House at Woodstock. Taking the rent of the house a man lives in at the tenth of his income, Chaucer's house at Woodstock may be estimated in modern denominations of money at the value of 100*l.* per annum. This, with his annuity at 240*l.*, and his grant of wine at 180*l.*, constitutes a revenue of 520*l.*" —*Godwin's "Chaucer,"* ii. 168.

The allowance of wine was equivalent to four bottles a day of our measurement. And the above was not Chaucer's ultimate income, for he was subsequently made Clerk of the Works, with a salary (in our money) of 657*l.* So that Geoffrey Chaucer derived more than twice as much from the State as Alfred Tennyson does. A modern poet laureate, has his card for the royal balls, of course; but no modern laureate ever lived on such friendly, kindly, humane terms with his Sovereign, as old Dan Chaucer did with Blanche of Lancaster, of whom he says so beautifully—

"Therewith she loved so wel right,
She wronge do woulden to no wight,
No wight ne might do her no shame,
She loved so wel her owne name."

Many readers will remember Froissart's delightful account of his reception at the castle of the Count de Foix. But let us rather stay among our own countrymen. William Caxton—*clarum et venerabile nomen*—was not high-born; he was a yeoman of Kent, and he was engaged in trade. But he was sent as

ambassador by Edward IV. to the Duke of Burgundy (who had married the king's sister, Margaret Plantagenet), about 1464, according to Bishop Tanner. The dawn of European letters was now fairly breaking in the sky. Philippe de Commines was a youth, but may already have been meditating his chapter—"Sur l'avantage que les bonnes lettres et principalement les histoires font aux princes et grands seigneurs." Well, it is one of the curiosities of literature that Caxton, who introduced the most innovating of all inventions into England, was the most intensely feudal man of his time. His works, with their queer egotistic prologues and epilogues, are to be seen in the British Museum; and the said prologues and epilogues give us a full picture of the relations between literature and feudalism. In his "Legend of Saints," he says,—

"I have submyted [submitted] myself to translate into English the 'Legend of Saints,' called 'Legenda Aurea,' in Latin; and William, Earl of Arundel, desired me—and promised to take a reasonable quantity of them—and sent me a worshipful gentleman, promising that my said lord should, during my life, give and grant to me a yearly fee, that is to note, a buck in summer and a doe in winter."

Here is a glimpse of his relation to Margaret of Burgundy, in his own exact language, in the prologue to the "Recuyell of the Hystoryes of Troye:"—

"On a tyme hit fortuned that the ryght hyghe excellent and right vertuous prynces my right redoughted lady my lady Margarete . . . . she fonde a defaute in myn englissh which sche commanded me to amende and more over comanded me straytli to contynue and make an ende of the resydue than not translated. which dredefull comandement y durste in no wyse disobey because y am a servant unto her sayde grace and resseive of her yerly ffee and other many goode and grete benefetes, and also hope many moo to resseyve of her hyenes."

At the end of the book, the pious old printer says, "She hath largely rewarded me. Wherefore I beseche Almyghty God to rewarde her everlastyng blisse after this lyf."

"In Burgundy," says Mr. Charles Knight, in his very agreeable biography of Caxton, he "was received on a free and familiar footing in the courtly circles." Nor were his feudal patrons men who took to letters from any unfitness for their more peculiar duties of war. Besides Fitzalan, Earl of Arundel, and Tiptoft, Earl of Worcester, his greatest patron was Anthony Lord Rivers, who was renowned for a tilting he had with the Bastard of Burgundy, in a tournament at Smithfield. Caxton adored chivalry, and bursts into this exclamation about the Earl of Worcester:—

"O good blessyd Lord God!—what grete loss was it of that noble, vertuous and wel-disposed lord!"

Patronage, in fact, was at its best days, for the men mutually loved and respected each other. The nobles thought it their duty to encourage learned men, for the sake of learning, as their ancestors had endowed religious houses for the sake of religion. Those who neglected letters and plumed themselves on being only fit for hawking and war, might at least plead that all Europe had recognised their vocation as the noblest from time immemorial. If they were not patrons, why they were warriors; men fit for *nothing at all* were rare then—and especially rare in posts of honour or confidence.

The truth is, that without patronage, learning in those early days could not have existed. The expense of books was vast; "reading public" there was none; and as the revival progressed, scholars showed less and less inclination to enter the Church, which hitherto had been the natural resort of all who felt an impulse towards study. The scholar, as distinct from the priest, was now about to become a separate character; and how was he to live? He must, at all events while he was studying, have help, and for the help he looked to the magnates of the land.

There are many illustrations of the state of things in the lively letters of Erasmus. It is interesting to us to know that he found some of his kindest patrons in this country. Blount Lord Montjoy was one of them; and in 1515 Erasmus begins a letter to him—"Salve Mæcenas optime!" Henry VIII. had taken notice of him while still Prince of Wales; Warham, Archbishop of Canterbury, was especially kind; and of Sir Thomas More's house he was an intimate. There is something comic in the way in which Erasmus accepts the notion as a matter of course, that the grandees ought to provide for him. Let us translate from a letter in which he sends a friend of his—Battus—to get him money from Lady de Weer—a great lady with a castle in the Low Countries, at which he occasionally stopped:—

"You must excuse my modesty to my Lady," says he, "in not opening my need to her in person. Tell her, that one cannot get a Doctor's degree more properly anywhere than in Italy, and that Italy cannot be approached by a delicate man without a great deal of money; chiefly because on account of my reputation in literature—such as it is—I could not live shabbily there. Show her how much more honour I am likely to do her, than these other theologians she cherishes. For, they declaim mere commonplaces, I write things which will live for ever. They trifle in an illiterate manner, and are heard in a church or two, here and there;—my books are read by Latins, by Greeks, by every nation in the whole world."

And so he goes on, in his comic Erasmian way, A.D. 1500. It was his regular mode of making hauls. What scholars had most to complain of was not unwillingness to patronize them, but

the continual wars, which carried away their patrons, and absorbed their patrons' money, the rivalry of theologians, and the ignorance of the mass of people among whom they had to spend their lives. Yet there was a kind of veneration for learning as something superior and mysterious pretty widely diffused. It was not so bad in point of *status* as in point of money. For widely as ranks were divided *in* rank, their social footing was more easy and natural than now. Civilization, which destroys some distinctions, creates other ones; and the old feudal earls and long pedigrees were less "exclusive" than your modern "brand-new" potentates of a few generations' standing. Erasmus, the burgher's son, was hand-in-glove with Lord Montjoy. Buchanan was exceedingly intimate with Lord Cassilis. The letters between these scholars and the very highest potentates in Europe, show that the sympathy of man and man was stronger than the distinction of ranks. There is something paternal in the tenderness with which Roger Ascham speaks of Lady Jane Grey,—and Roger sat at table with the highest in the land.

We shall draw an illustration of the old *status* of learning from sources little consulted now—the old heraldic writers. It is true that they were often pedants and blockheads, but they were in earnest; and in their own queer way they reflect the tone of old times. Thus, in Segar "On Honour," book iv. c. 16 (1602), we find this *dictum*:—

"A gentleman ennobled for learning, virtue, and good manners, is to be preferred before a gentleman born and rich—*quia sapienti, scientia et virtus sunt in anima.*"—*Luc de Penna.*

And that extraordinary old gentleman, Sir John Ferne, who wrote in the sixteenth century the "Blazon of Gentrie," and who had that kind of contempt for anybody who wasn't a gentleman that a horse may be supposed to have for an ass, condescends to treat of "the obteining of Gentrie by learning." He admits that "a Poet Lawreat may merit coatearmour":—

"Lastly," says he, "Historiographers and Grammarians being most necessary in any City or Civill commonweale and are accounted amongst the learned, and therefore bee not excluded from the hope of honour, and unto them, then, must be due the ensignes of gentry as the desert of their calling shall require."

Before Ferne's age, the Italians—the earliest and the most magnificent patrons of letters—had discussed the question, "Whether a Nobleman by Birth or a Gentleman by Desert is greater in Nobility?" and a translation of Nemia's discourse on this question was published in England in 1595. It is evident that the inspiration of such discourses was *classical*, for the classics were the first real liberalizing element in modern Europe.

In the generation of scholars which succeeded that of Erasmus and lived to see the seventeenth century come in, scholarship attained a really high public place. At the death of Erasmus, his cabinet had been found full of fine presents—cups, rings, shells, clocks, &c., from kings, lords, and ecclesiastics; and during the latter years of his life the town-councils of any town he happened to visit, had usually made him a present of wine, as a mark of public honour. His illustrious successors were fought for by rival cities when chairs became vacant. As Casaubon approached Montpelier, the magistrates came out to welcome him. Afterwards, when he was librarian to the great Henry IV., in Paris, that monarch used to meet him in the royal library with a "Come, Monsieur Casaubon, you shall tell me what all my fine books are about!" There was a mutual respect,—Casaubon respected the great warrior and king—Henry respected the great scholar and genius. When Casaubon came to London (1610) James I. used to have him to dinner. In the next century, because George III. once in his whole life talked to Dr. Johnson for half-an-hour, all flunkeydom was astonished by his condescension.

Patronage was still healthy in England up to the time of the Civil Wars. Shakspeare's dedication of the "Rape of Lucrece" to Lord Southampton breathes the spirit of sincerity. Ben Jonson was certainly independent; he was also apt to be haughty; but the Sidneys, and the Herberts, the Sackvilles and Digbys, were crowned by him with the fairest diadems of poetry. "His conversation," says Clarendon, "was very good, and with men of most note." We shall give some lines in which he expresses his view of patronage:—

"If, SACKVILL, all that have the power to do
Great and good turns, as well could time them, too,
And knew their how and where; we should have then
Less list of proud, hard, or ungrateful men.
* * * * *
And though my fortune humble me to take
The smallest courtesies with thanks, *I make*
Yet choice from whom I take them; and would shame
To have such do me good I durst not name.
They are the noblest benefits, and sink
Deepest in man, of which, when he doth think,
The memory delights him more from whom
Than what he hath received. Gifts stink from some,
They are so long a coming, and so hard;
Where any deed is forc'd, the grace is marr'd."

Here, with a full recognition that what was gracefully offered might be honourably taken, we have a something present in the

sentiment of the verses which shows that the system of patronage was on the wane. Take some more verses to a famous patroness of that day (one of Walpole's "Noble Authors"), Lucy, Countess of Bedford, daughter of Lord Harrington. Says Ben—

> "Madam, I told you late, how I repented
> *I ask'd a lord a buck, and he denied me;*
> And, 'ere I could ask you I was prevented;
> For your most noble offer had supplied me."

The *naïveté* of this is amusing; but when rare Ben was denied a buck, patronage was surely deadened. The lord could not have been the one of whom he says—

> "I do but name thee, PEMBROKE, and I find
> It is an epigram on all mankind,"

and who was, Clarendon tells us, "the most universally beloved and esteemed of any man of that age." Much less was it Lord Falkland, the "virtuous and the just"—a true friend of Ben's—in whose gardens met and talked wits and statesmen during that period which Swift described as the politest England ever knew—"the peaceable part of King Charles the First's reign." Whoever he was, he marks an epoch, and Ben must have felt that patronage was passing away.

After the Civil Wars, there is a lower tone distinctly perceptible in the high life of England. The old feudal gentlemen give place to "men about town,"—not stately, but smart,—not poetic, but witty,—not heroic, only dashing. Instead of Falkland and Pembroke, you have Dorset and Buckingham. Instead of Tom Nash, you have Tom Brown. Instead of Marlowe, you have Otway. There is plenty of cleverness, much good nature, elegance of manners, and so forth; but somehow, a certain noble elevation, a certain tone of sentiment, marks the elder and is missing from the younger breed of men. We are not called on to illustrate this in detail, just now; but as one feature of the change we may point out that the relation between writers and patrons becomes palpably inferior. The praise has less the air of sincerity in the dedications and other writings of the first; and the kindest is less genuine and hearty on the part of the second. All society was changing. The Civil Wars had destroyed many ancient families, and impoverished others. The Court certainly valued talent, of a kind, and in a way, but it neglected Butler, and did not over-much encourage Dryden. The men of letters took to dedication as a tradition, but practised it, now, *as an art.* "Glorious John"—one of the kindest of men, as he was one of the greatest of writers—behaved exactly like a fashionable portrait-painter: he drew his patron with the loveliest colours in his handsomest mood (transfiguring him, as it were), so that the

patron must have been astonished to find himself such a wonderful person. He was sincere, no doubt, in the main, while he was absolutely employed on the business; but his dedications looked extravagant, because the Civil War had shaken the general *prestige* of rank in a way from which it never recovered. Of course, a man of quality was a man of great consideration still; but the old innocent veneration for blood and rank, which was part of the feudal system, and was a quite distinct thing from the modern regard for money and title, was wearing away like the belief in fairies. Halifax complains of the "contempt for scutcheons" of that age. The age of heraldry was going, and the age of plush coming in; the country was in a state of transition from the point of view of the feudalist to the point of view of the snob. Naturally enough, as the respect for grandeur became less and less a matter of sentiment and instinct, the expression of it became more and more a matter requiring art, skill, exaggeration. Old-fashioned Caxton could only hope God would bless Margaret of Burgundy here and hereafter: in Charles II.'s time he must have sprinkled her with the most rich and delicate flattery—compared her to Venus or Helen,—to the Morning Star, or the Rose of Sharon; and having enveloped her in a robe of compliments glittering with epigrams, have pocketed his "present" and walked off to Will's Coffee-house. We do not say that the Charles-the-Second men felt all this, and were to be considered as mere hypocrites, accordingly—that would be gross injustice; we only say, that comparing them with the ages before and since, their position was pretty well what we have represented it.

There was, however, in Charles II.'s time, a freedom of intercourse between the witty and the great much beyond what is tolerated by modern practice. Dryden had much difficulty in getting his pension regularly; but Charles had been seen walking with his arm round his neck in the Mall, chatting to him about poetry and suggesting satires. Lord Dorset, the most munificent patron of the day, gave dinners to the poets frequently,—when, sometimes, they say, the guests found a handsome "tip" under their plates! Oldham the satirist died at the seat of the Pierrepoints, and the monument their head put up to him is still to be seen. Wit was in fashion; repartee was part of the current coin of gentlemen; and as the noblemen about town prided themselves on their own talents, they naturally lived very freely with men of intellectual distinction. It is one sign of the intellectual decay of a class, when it entrenches itself in its rank, and is afraid to mingle freely with the geniuses of the time: a great reason why letters were encouraged so prominently in France at various periods was, that the old French

noblesse had so much conversational talent. We think it impossible to read such books as the "Ménagiana" without seeing that the French men-of-letters found at Louis XIV.'s court potentates whom they could sincerely hail as brothers in parts; the great King himself had, Ménage says, "as much good sense as any man in his kingdom," and nobody's *bons-mots* were better than those of the Prince de Guémené. That age, immortalized by Voltaire, unquestionably gave a strong impulse to literature among ourselves, and set the fashion of giving State recognition to literary genius—a fashion which so strongly predominated in England for some years after the Revolution of 1688. Up to that time, there had been plenty of private patronage—there had been occasional State patronage of authors. Hobbes had lived and died under the protection of the Cavendishes. Dryden had taken money on all hands. Etherege had been sent as envoy to Ratisbon. Cowley had been employed as secretary to Lord Jermyn in the King's business during the Civil Wars. Cleveland had been judge-advocate to Charles I. Milton had been secretary for foreign tongues to the Council of State. But the period which followed the Revolution was unquestionably the one when mere literary genius carried men higher in this country than it had ever done before, or has ever done since.

To be sure, we must not run away with the notion that all the favour was the fruit of mere disinterested reverence for letters—that would be quite a mistake. The era of Party had begun; and it was under the inspiration of Party as much as of honour for genius that the great prizes were given away. Addison was a stout consistent Whig—a Whig in his poetry, even,—and had never neglected, from the earliest time, to push himself forward into the notice of great men. It was not his "Roger de Coverley" that made him Secretary of State. Prior was first a violent Whig and then a violent Tory, gaining by both creeds. Swift was as mighty in journalism and pamphleteering as in everything else. But still, of course, it was a great matter that a genius for politics could carry men so far. And talent did something similar for men less remarkable than these. Congreve held several sinecures. Rowe was for three years Under Secretary of State. Even the unlucky Gay was for a short time secretary to an ambassador. Old Dennis had a place in the Custom House. Socially, these men were caressed and encouraged. The occasional jealousy of a fool might sometimes hurt the proud and sensitive spirit of the great Jonathan; but his correspondence shows the excellent terms he was on with Bolingbroke, and Oxford, Carteret, and Pulteney—with the good-natured Lady Betty Germain, and the all-enchanting Duchess of Queensberry. It is sufficient to say that Voltaire,

in his "Lettres sur les Anglais," distinctly declares that literature was in more honour in England than in France—Voltaire, who at a supper in Paris could look round the table and gaily boast, "We are all princes or poets!" Some men—Pope, for instance—carried their ambition for splendid acquaintance too far. But, generally, the literature and the society of that age acted and re-acted healthily on each other. Literature owed to its close connexion with the world that combination of colloquial ease with good sense which still makes the charm of the writers of the age of Anne. Society, again, was refined, purified, and instructed by such works as the "Spectator" and "Tattler," and the moral Essays of Pope. Meanwhile, the position attained by letters elevated the class of the men who professed them; and though patronage was steadily wearing away (it was a significant symptom when Pope dedicated his "Iliad" to Congreve; still more, when he ridiculed "Bufo" in his satires), a kind of equality was established between men of genius and men of rank more real and hearty than has ever been known in any other period of modern times.

How bitter was the interval between the era of patronage and the era of the public, is well known, from a famous passage in Macaulay. Johnson—whose immortal "Letter to Chesterfield" (more cutting in its lofty and refined satire than any letter of Junius, to our mind), first sounded the doom of the old system—was a stout pilgrim through that valley towards the delectable mountains of large editions and opulent reviews. A bad age was that which followed on the hey-day of Addison and Prior. Fielding and Smollett were poor. Churchill had to tell the world of the former days, that—

> "—wits then
> Were to be found 'mongst noblemen."

Horace Walpole's experience could justify him in observing of Burke—"He has a little of the airs of authorship about him—as if he thought it a great thing to be an author—*he will find out his mistake.*" Smollett had known the misery of dealing with "those little fellows who are called great men." "*Nitor in adversum,*" exclaims Burke, in his old age, "is the motto for a man like me." David Hume found the grandees not over friendly, though David was sprung of incomparably nobler blood than nine-tenths of the aristocracy of England. Literature continued to grow as an influence, and to improve as a profession; but with society it did not stand so well, in proportion, as in earlier times. The great Johnson himself, as Mr. Croker tells us, never received much attention from the high world. There was, indeed, a perfect rage; but it was rather as that ugly

modern phenomenon—the lion. He was not loved as Ben Jonson was by Pembroke, or Swift by Bolingbroke. By the middle of last century society had become more restricted in its sympathies—more fastidious in its demands for exactly that kind of merit and of manner which belonged to itself. For instance, let us hear Lord Chesterfield talking to his son in 1751:—

"I hear much of your conversing with *les beaux esprits* at Paris; I am very glad of it; it gives a degree of reputation, especially at Paris; and their conversation is generally instructive, though sometimes affected. It must be owned that the polite conversation of the men and women of fashion at Paris, though not always very deep, is much less futile and frivolous than our's here. . . . . Moreover, *les beaux esprits* at Paris are commonly well-bred, which our's very frequently are not: with the former your manners will be formed; with the latter, wit must generally be compounded for at the expense of manners."

A great deal, of course, depends on the fashion at any given time, and the fashion very much depends on the Court. Now, the Hanover family has never loved letters, and has done very little for them since its accession. George the Second would do nothing for Gay, because, as Chesterfield says—"he thought a poet a mechanic." George the Third only loved mediocrity. George the Fourth was polite to Sir Walter Scott, certainly; but Sir Walter rather had the balance of obligation in his favour. The Duke of Cumberland of Gibbon's time saluted him, once, in this fine polite way—"Well, Mr. Gibbon, still going on as usual—scribble—scribble—scribble!" To be sure, these personages might plead that they never had any superiority of talent whatever, and could not sympathize with what they could not understand. It runs in some bloods, and not in others. The Stuarts had notorious failings; but wit, and art, and song they could always feel, and the genius for it they often shared; besides, what *they* could not have imitated as men, they would still have gracefully recognised as gentlemen. Unfortunately, it is complained, with justice, of the present Court, that of all classes of human merit the finer kinds of genius are those which it least delights to honour. Those branches of mechanical science which bring a ready return in wealth—those branches of pictorial art which, though elevating influences, minister to personal vanity—are no doubt duly appreciated. But what great writer—what great scholar—obtains any of that personal favour which is lavished on soldiers who have destroyed their own troops? and is not withheld from political adventurers and lucky *millionnaires?*

The French Revolution acted very peculiarly on the relation which we are now discussing. The vast impulse it gave to genius

seems at first sight to have been highly favourable to literature; but a remarkable off-set to this was soon—is still—perceptible. Society began to observe, in the triumph of the new ideas, that men of letters had had an enormous effect in preparing these vast movements. What was singular, too, was that these same men of letters had *personally* little to complain of in the old system. Voltaire, it is well known, was childishly proud of being made gentleman of the bedchamber to Louis the Fifteenth—was not indifferent to the fact that he himself was noble *par le ventre*—enjoyed much homage from potentates, and was a little too fond of talking of the *canaille*. Rousseau was petted by the *salons* whenever he condescended to allow them to do so. Chamfort was the spoiled secretary of the Prince de Conté. Yet, men like these, and men of rank, too, who had far more to risk, went on criticising and laughing at the old system; scattered sparks of wit about which set the decayed dry parts of it on fire, and finally (like Lamb's Chinese friend) fairly burned down the old house in *roasting* porkers (abbés, nobles, &c.), for their own gratification! Now, when the causes of the French Revolution (fertile theme!) came to be discussed, this influence of the writers was even exaggerated for a while. The nobles of Europe, as Moore observes, drew within themselves to a greater degree than before. Sir Walter Scott, in sketching the old life in his "Napoleon," thought it necessary to deplore the intimacy which existed in Old France between the men of genius and the men of rank. Pitt, though a scholar himself, refused to assist Burns or to know Cobbett. And it was evident that patronage was now fairly gone. The latest remarkable instance of that ancient system was, perhaps, afforded by the position of Crabbe in the family of the Dukes of Rutland. It is known that Crabbe remembered the position with so much pain, that, in later life, being in the same room with the Duchess, his old patroness, it was with difficulty he could bring himself to approach and salute her. The more "independent" men "fought shy" of all such notice whatever; like Porson, whom no inducement could bring to meet even Charles Fox.

Distinguished men, of course, with a leaning that way,—especially distinguished men of any *political* importance,—were readily received as lions in the last age—and a brilliant age it was. When we ask, indeed, what was done for the geniuses by their great friends, they have not much to boast of to us. Slow was the rise of Sydney Smith; small the success attained by Mackintosh. Poor Tom Moore, it seems, was grumbling at the Whigs, in his heart, all the later years of his life. But Tom, like others, had nothing to complain of in the way of social reception. He was well paid for the time he bestowed on society, in flattery and in

dinners; though his "Diary" has inflicted a heavy blow on his reputation, and has even, we believe, checked the subscription to his monument.

The effect of the French Revolution, as above described (and it must not be forgotten that we have Moore's testimony to it), is very visible when we study the memorials of the last age. There is the relation of diner-out to dinner-giver—of Whig wit to Whig grandee—of lion to peer—but not of friend to friend. A suspicion taints the relation, as though the wit were afraid of being servile, and the nobleman of being familiar. Every man who thoroughly devoted himself to society in which he had not been born, seems to have suffered morally from it. Even a genius like Moore was not free from the consequences. "Ah, Tommy loves a lord!" said Byron, clapping his fist emphatically on the table. There's friendship for you! And if a man like Byron could talk of him thus, think what your ordinary "friends" must have said! The Minstrel came and sang and dined with the modern Baron, and was called "Tommy;" and his very liking for the Baron's company was thought his weakness in the hall! The whole pretence on both sides rested, in most cases, on falsity. The Minstrel had an eye to the advertisement when he sat down to sing at the piano. The Baron was no Douglas or Percy, but the great-grandson of some contractor with a fortune and a title, both the product of jobs. Deduct the upholstery, and the Covent Garden *bouquets*, and what was left of the splendour of Tom Moore's favourite triumphs that was *moral?* How much of the charm depended on sentiment?

And here, let it be observed, that we by no means join in the cry, sometimes ignobly raised by persons calling themselves men of letters, that such men as chose to play the *rôle* of lions had claims on their entertainers for more than they actually received. They got the pay that they wanted; and this their distinguished friends were the very first to see. Lady Holland would never have ventured to snub Moore in public in the way she did if she had not known that his attachment to that kind of society outweighed his sense of personal dignity. And so with Hook. He had amused scores of people, but he always got his *quid pro quo;*—the dinners, the puffery, the *éclat* among publishers, the envy of snobs—the many items which made up his success and his happiness. No. Men like these were rewarded after their own hearts; had little claim on their entertainers, and had, above all, no claim on the State.

Certain centres of union between genius and fashion, in the generation passing away, will probably be long remembered in our social history. Whig gratitude has done its best for Holland House; and Gore House was scarcely deserted—by the bailiffs—

ere a literary gentleman entered the silent abode for purposes of "copy." Now, without asking whether the real secret of Holland House was not that it was a political nucleus—a Whig party organization—rather than a real temple of the Muses, without making any minute inquiry into the domestic life of Gore House, we cannot help pointing out this awkward fact about both brilliant establishments—that the two houses most famous in modern letters for the welcome they gave to literary men, were both presided over by ladies who had forfeited their social positions. We should be glad to think it an accidental coincidence; it may be that the vulgar are prejudiced on the subject, and that, as Socrates visited Aspasia, so no modern sage should trouble himself to inquire minutely into the relation between his Aspasia and his Pericles. But we cannot help remarking the fact. We know, however, that scandal never dared whisper a word against "Sydney's sister, Pembroke's mother," or the other fair daughter of that line—Mary, Lady Wroth; or the many lovely women who figured as naiads and nymphs in masques devised by the combined genius of Ben Jonson and Inigo Jones. Yet these women believed in poets, and poets honoured them.

One bad effect such—in so many respects attractive—establishments have on society is, that they irresistibly breed cliques and narrow literature. Belief in certain authors among the Holland House people, disbelief in other authors, were really articles of faith. There was an *Index Expurgatorius* as rigid as that of the Pope; and, indeed, Lady Holland seems herself to have been as "infallible" as Pope Joan. Another bad effect—on authors this time—was, that accustomed to be lionized, they came to view rather the social reception of their books in "sets" than their fidelity to eternal truth, as the great matter. Some weaker brethren sank their authorship in their social position altogether. This is always a fatal absurdity in every way; for though authors, like other men, are right to visit the best society they can, they are bound to cherish their individuality of soul (by which we do *not* mean a contemptible affectation of manner) as the most precious possession of their lives. When a popular poet or novelist sets up, bodily, for what people seem now agreed to describe as "a swell,"—what is the inevitable result? His own profession never regards the assumption as tenable, and the world never forgets that he is a writer, and that at bottom he is received because he is a successful one. We agree heartily with Byron, when he says—

> "One hates an author that's *all author*—fellows
> In foolscap uniforms turned up with ink."

But, at least, such a figure, though grotesque, may claim to be

real; whereas an author, varnished over into a dandy, is a mean pretender. Indeed, such a pretence essentially disappoints its own object by raising a presumption that the maker of it has risen from some position unusually obscure. Hook was a singular example of this weakness. Accordingly, what says his friend Mr. Lockhart, in his essay on him? "He had a degree of respect for mere wealth and rank which savoured of his humble origin and early associations." This is the kind of comment which in due time appears.

We fear that, after all, literature has *not* yet found its proper harmonious relation to modern society. There is a taint of lionism still about it in some developments. Carlyle—whose own noble and natural life is a model for imitation—complains in one of his essays, that when he came to London he found Grub-street deserted, and all the authors living in a kind of "high life below stairs." That flash of humour was the propeller of a bolt of truth. We miss the old independent man-of-letters facing the world on that footing only—meeting noble and simple with equal frankness and with due and natural respect—yet ever loving letters as the great object of his career. It is the confused and transitional state of our modern life which tends to make these men few, and which induces some of the higher spirits of the age (on whose retirement we shall not intrude) to live comparatively away from the busy scenes of the world.

We have sketched the old history of patronage briefly, but we think truly. Peace to it. It was a natural and healthy state of things, and played its play out in many ages rich in fine literature. It is dead, and he who hastily abuses it is as wrong as he who would attempt to restore it. Men of letters lived in hearty, reverent inferiority to the great men of action of old days, because *their* value was everywhere apparent, and the important part literature had to play was seen but most dimly and afar of. Now the whole world (the men of action still retaining the lead) recognises the man of thought* as anybody's equal, and besides draws an incessant drain of inspiration from literature, such as dwarfs the action of our day into comparative inferiority. Other considerations come in. The superiority of money is of a different nature from that of the old feudal superiority; modern families do not command that respect of the imagination which the historic families did; the habits of social life do not give play to the old conversational genius which once was so much

* Of course the sensible reader will interpret the distinction *broadly*. We do not mean to say that men of action are not thinkers, nor men of thought capable of any action whatever!

cherished. Above all, society is permeated with that undefined sense of the power and innovating character of the common literature of the day, which is not very compatible with an entirely satisfactory relation between it and the men who are the souls of that influence. How *can* a poor old general of the ordinary breed be very glad to see in a drawing-room a writer of *The Times?* How can an ordinary cornet do anything but affect a foolish contempt for a "newspaper fellow," while he sees grey-headed old gentlemen (who have "bought" over everybody) foaming at a paragraph? We believe it is rather *bon ton* in that dubious quasi-aristocratic region which combines important middle-class people of the fashion with unimportant peers of the same,—to pooh-pooh literary men, and class them with the producers of early strawberries and pears. An inquiry into the exact pretensions of these families at the period when Gay was romping with the Duchess of Queensberry at Amesbury, would be good fun, but too cruel a revenge. Meanwhile, to do the Whig oligarchy justice, they seem more appreciative than this spurious breed. There is something touching in the loyalty with which the Whig writers still dedicate all round "to Henry, Marquess of Lansdowne!" and though Lord John has damaged his friend Moore's fame, we believe sincerely that he did it with the very kindest intentions. Time, "the wisest of things," as Lord Bacon has it, must be left to show what organization literature will take, if any, at all similar to that taken by the older forms of intellectual life. At present there is no sign of it whatever.

Meanwhile, we are not disputing Mr. Thackeray's very proper and true statement, which opened this paper—viz., "that we do meet with good-will and kindness," &c. Quite the contrary. Moreover, instances are to be seen every day of literature's conducting men to a degree of success and prosperity, which they would be very ungrateful if they did not acknowledge. But neither the one nor the other of these facts is at all conclusive as to the whole relation between literature and society being satisfactory in proportion to its increased importance in modern times.

Art. VIII.—China and the Chinese.

1. *Papers relating to the Proceedings of her Majesty's Naval Forces in Canton; with Appendix.*
2. *Correspondence respecting Insults in China.*

THAT fact is often more incredible than fiction, is a remark that time frequently endorses. Were it gravely stated in a romance that one of the most powerful nations in the world was affected in its government, its opinions, and even its feelings by a kingdom removed from it by the diameter of the globe, that events occurring in a single city of that kingdom vibrated through every corner of Britain, exasperated parties, and divided statesmen hitherto friendly to one another, we might concede to the novelist his privilege of invention, but might justly complain of his attachment to the marvellous.

Yet the fact is before us authenticated by despatches, supported by blue books, debated in the legislature, and shortly to be discussed at the hustings. A dispute at Canton has suspended the public business of Great Britain and Ireland, and terminated unexpectedly the present session of Parliament. Commissioner Yeh has performed a feat which Lord Derby and his adherents have for three years been occasionally attempting; they have carried a vote of want of confidence against Ministers, and made it advisable for them to appeal to the sense or the passions of the country. "Tantæ ne animis *cœlestibus* iræ:" what share have the inhabitants of the *celestial* kingdom in this commotion? Is it their strength, their duplicity, or their perversity which has thus imperilled, or it may be strengthened, the hands of Lord Palmerston, and filled the columns of our journals with professions of self-devotion and zeal for the public interest?

Into the state of parties at home, the possible results of the approaching elections, and the chances of the present Ministry for a new lease of office, or a prompt dismissal from it, we do not propose to inquire. We leave these "domestica facta" for others to celebrate, and propose devoting a few minutes to the people, which, directly or indirectly, has called from their hiding-places the banners, the colours, and the manifestoes of candidates, and will shortly inflict more noise and turmoil upon our capital and provincial towns than the Chinese themselves create with their periodical hubbub of gongs, tom-toms, and fire-works.

If we look to the number of books which have been written

about China since our permanent establishment at Canton, we have no reason to complain of the scantiness of our information. On the contrary, we feel the embarrassment arising from riches. But the *labor* and the *opus* are to construct from the materials in hand a clear and consistent picture of the nation with whom we are now exchanging shots. The inquiry is by no means unimportant. We may be engaged in a duel with the city of Canton alone, or we may be drawn into collision with an empire more formidable than any we have hitherto encountered in the East. If the central government of China should ignore the acts of its pro-consul, the conflict will be a short one; but if it adopt his prejudices against the "outside barbarians," we may perhaps have begun a contest that will be costly in its process, however triumphant to ourselves in the end.

Nor are the revolutions of Asia by any means objects of indifference to England. We do not hold, with dreamers of the Coningsby school, that the fate of the civilized world has always been, and ever will be, determined from the land of the Orient, or that revolutions from that quarter may again renovate or destroy our systems of religion and society. Yet neither is it possible to deny the fact, with the pages of history before us, that the compact masses of eastern tribes have at many epochs affected powerfully the civilization of the West, or that it was a horde from Central Asia which consummated the ruin of the Roman empire. It may be well, accordingly, to consider the social and physical aspects of an empire on whose skirts we are at this moment at war, and the probability or improbability of its rising against us in mass, and if not assailing our outposts, yet at least inflicting on our trade and progress in the East a blow which will be felt both in our colonies and at home.

In contemplating a country which we may be called upon to assail on some more vulnerable point than its extreme border, we must take into account all its resources of defence or aggression—its *climate*, since heat and cold are among the implements of war; its *wealth and population*, since these are the sinews of war; the *physical character* of the land, since mountains and rivers and plains are often the strongest bulwarks of a kingdom; and the degree and kind of its *civilization*, for this, more even than its numerical force, is often the measure of its resisting power. It may be useful also to inquire whether there be any element in the national character of the Chinese people likely to inspire them with the strength of enthusiasm or union, or whether the days of its empire are numbered, and the epoch has arrived for breaking down its long isolation from the great human family.

Our survey of the Chinese empire must be brief, and accord-

ingly we can afford to trace in the following sketch such features only as appear most important to our present inquiry. We shall presume, indeed, since the means of information are so abundant and easy of access, that our readers are in some measure acquainted with the subject, and shall attempt merely to generalize what is commonly known.

The *climate* of China may be described as one of *extremes*, and presents some curious anomalies. The general temperature of the country is very low for its geographical position. At Pekin, which is one degree farther south than Naples, the mean temperature is nearly that of Brittany, and while the winters are as rigorous as those of Sweden, the summer-heats are more intense than those of Cairo. But in a territory ranging from the twenty-sixth to the forty-second degree of north latitude, the variations of the climate are necessarily great. In the maritime provinces —and the sea-coast extends nearly 2500 miles—both heat and cold are much modified by the sea. At Canton, which is under the tropic, the heat during the months of July, August, and September is excessive, and is accompanied, at least in the neighbourhood of the city, with frequent and destructive typhoons. At the close of the hot season, the transition to cold is sudden, and the entire province is overspread at night, for weeks together, with dense and chilling fogs. The climate of the interior is, however, generally exempt from the extremes of Canton and Pekin. The province of *Kiang-se* is the most favoured; but the central provinces generally enjoy a happy mean between the rigour of the north and the enervating heats of the south. In no one, indeed, of its numerous sections is the climate of China decidedly unhealthy or ill suited to the development of vegetable or animal life. Even in the north, the summers are genial, and the winters, though cold, are dry. The least salutary portion of the country is in the western frontier districts of *Gun-nan* and *Sze-che-se*, and on this account they have probably been selected for penal settlements. The census of China exhibits a numerous population in every quarter of the empire; and accordingly we may generally ascribe to its climate the properties which conduce to the conservation and comfort of life. The *wealth* and *population* of China are difficult to ascertain accurately, since our accounts of them are often suspicious, and the standard of wealth is differently estimated by native and European economists. Many a retail shopkeeper in England enjoys or expends a larger annual income than a Chinese country gentleman; and many an English country gentleman could defray, without much inconvenience to himself, the annual expenditure of a dozen mandarins. But goods, rather than money, are the symbol of wealth or competence in the Middle Kingdom, and a proprietor of lands is opulent in propor-

tion to the amount of grain and rice in his barns, and not of the money in his purse. There are indeed no large estates, since the lands of the father are divided, after his decease, equally among his sons; and if any one holds more land than he can cultivate conveniently, he lets it to another on the *métayer* principle, or on condition of receiving half the produce. The Government, in some measure, fares in this respect like its subjects. Consistently with the patriarchal system of the Chinese, the Emperor is the universal landlord, and takes the tithes or taxes of his vast estate. He receives them both in money and in kind; and he distributes them, in like manner, among his civil and military officials, signing for some of them a cheque on the treasury, for others an order for so many quarters of rice or grain. The annual revenue paid into the imperial exchequer is 10,000,000*l.*; but this sum by no means represents the produce of the taxes, the excise, and customs; since at least two millions more are paid in kind, and the provincial governors deduct their departmental expenditure, and forward to the treasury only the balance remaining. The imperial treasury, before the close of the late war between England and China, contained perhaps one of the most curious collections of coins in the world. For the native wares of their country, the luxuries or the necessaries of Europe, the Chinese vendors were content to take any currency, provided it were in good silver; and there had gradually found its way to Pekin, through the most devious channels, the specie of Venice and the Greek empire, the tokens of the Flemish and Hanse towns, shillings and angels stamped with the effigies of our Edwards and Henrys, dollars which bore the castles of Castile, and crowns which may have paid the *mousquetaires* of the Bourbons. In fact, so small in value or so debased as metal are the native coins, that these solid pieces of the barbarians were hoarded as ingots by a succession of imperial chancellors. The wealth of China, therefore, as contained in a circulating medium, would give a very imperfect idea of the actual or comparative resources of the country. These must be sought in its universal industry and its minute agriculture. The sternest of our political economists has not a greater theoretical aversion for vagrants and beggars than John Chinaman has practically. Mendicants are usually found in the immediate vicinity of Buddhist temples; and the only endowed religion in China —the religion, however, of a sect, and not of the state—lies under the discredit of alone encouraging paupers in idleness. The orthodox Chinese are mostly in the condition, as to worldly goods, which the wise man aspired to when he prayed for "neither poverty nor riches." He cannot subsist without work, and there is no kind of work which he will not cheerfully undertake. And the opportunities for labouring with his hands or feet are indefi-

nitely multiplied by the rudeness of his implements and machinery. He despises, and he has always despised, the substitutes of the "western devils" for manual labour. When the Jesuit priests displayed to the Emperor some of the most delicate instruments of European art or science, his Celestial Majesty viewed them with open indifference and secret contempt, observing that they would amuse the inmates of his nursery. The Chinese, at no period of their history, have been enslaved by the bondage of *castes*, like the Hindoos or ancient Egyptians: yet they have suffered from many of the inconveniences of that institution. It was forbidden by law to the Egyptians to improve upon or depart from the pattern of the saws, hammers, and chisels of the craftsmen who wrought for Menes and Rameses, even though the handy Greeks exhibited before them at Alexandria their own lighter and more efficient tools. Custom in China has been nearly as prohibitory as law in Egypt, and the artisan performs the most delicate operations of weaving, upholstery, carving, and inlaying, with implements that an English carpenter or cobbler would disdain to use. The economy of labour is therefore almost unknown; and among its minute and manifold subdivisions, every one finds his work and his wages. The pittance of a Dorsetshire labourer has become almost proverbial for its scantiness in England; but his weekly pay would seem a fortune to the Spanish peasant or olive-dresser. The miserable earnings of the English sempstresses have drawn to them the attention and indignation of the humane, although it might be a rash policy in the legislature to interfere between the employer and the employed; but the weekly pittance on which the Dorsetshire labourer and the London sempstress manage barely to exist, would keep a Chinese artisan for six months in rice, and even enable him to indulge in the occasional luxury of a rat or cat ragout. Acquiescence in low diet is usually and justly esteemed as a mark of low civilization: but the remark is not very pertinent to the Chinese, whose civilization, although comparatively with that of Europe imperfect, yet is advanced in comparison with that of Asiatics generally. They are, as a rule, a plump, unctuous, and muscular race, capable of enduring fatigue, and the *coolies* or goods-porters of the great towns especially are remarkable for their powers of lifting and carrying enormous burdens. Their strength is, in some measure, the reward of their ordinary temperance; for though in the purlieus of Canton the Europeans have corrupted them with alcohol and evil example, drunkenness is rarely seen in the interior. It is impossible not to see that among so many myriads of able-bodied men there is a vast "seminarium militum,"—a native depôt of effective soldiers, should any emergency call for a *levée en masse*. The occupations of the artisan

who is employed within doors, and restricted to a similar posture of the body during many hours of the day, are unfavourable to muscular strength and development, and the recruiting sergeant derives his supplies of "tall young men," not from the streets of Manchester or London, so much as from the athletic youth of the rural districts. The rule is indeed not without its exceptions, since few of our grenadiers are culled from Suffolk, but many from Lancashire. The army of the middle kingdom is dependent for its supplies neither upon the sedentary trades of the weaver and the tailor, nor upon the active occupations of the ploughman and the herdsman, since both the ordinary legions and the prætorian guards of the empire are levied from the resident or migratory Tartars. The land and water population, however, are qualified both by their strength and stature to become soldiers at least as good as the sepoys of Hindostan; and the fields, rivers, and canals of China would afford an almost inexhaustible supply of recruits. Field labour throughout the country is chiefly performed by the thews and sinews of man himself, for his plough would have been deemed antiquated by Cincinnatus, and his spade and hoe are ponderous and unwieldy. The works which he executes with these primitive implements are alike onerous and diversified; they tax his strength and try his patience. The land available for tillage in China bears a very small proportion to the area of the country itself. Much of it is extremely fertile, and much not naturally productive is rendered so by irrigation. But the mountains and hilly districts of China occupy about half its extent: and although terraces of artificial soil are laboriously formed on the hill-sides, the flanks of the mountains are either sterile rock or clothed with primeval forests. Even its enormous plains are by no means all pervious to the plough. The northern portion of the Great Plain—which, according to the census of 1813, feeds no fewer than 170,000,000 of "*mouths*," as the Chinese say not inappositely—is dry and sandy; while, on the eastern side, where it borders on the sea, it is low, swampy, and studded with lakes. The waters indeed of China, as we shall presently see, abstract considerably from the land; and if they contribute largely to some species of the people's food, they diminish also its area for grain and legumes. The agriculture of China has been sometimes commended by foreigners, and is the theme of wonder and applause to native writers. In France it might pass muster; but an English or a Belgian farmer would vouchsafe small commendation to Chinese tillage. We have already spoken of the implements in husbandry: to their defects must be added a general scarcity of manure, and an obstinate adherence to the rules of sowing and planting that sufficed for the aborigines of the soil. The scarcity

of manure proceeds from the absence of dairy and sheep-farms—for the Chinese, unctuous as they are in their diet—neither drink milk nor eat butter or cheese. Their horses are small, and unimproved by foreign breeds: their sheep are lean, and derive a precarious subsistence from the casual herbage of the fallows or canal banks, and to employ artificial manure would be regarded by those sturdy protectionists as reproaching heaven. The bullock, useful for the plough, is the only animal that finds much favour with the bucolical class of the "flowery kingdom." The sight of a well-compounded dunghill, so full of hope to the British farmer, is unknown to the Chinese hind: he goes forth into the highways and to the borders of canals with his sons and his slaves to pick up the offal which chance throws in his way: the trimmings of his hair and beard, and of those of his household, are added to the heap: he hoards the refuse and off-scouring of all things as a miser hoards his gold; and feeds his glebe with supplies which an English cottager would leave on the roadside. Water, indeed, is the principal manure employed by the Chinese; and since the rivers fortunately bring down a turbid mass of alluvial soil, the harvests generally correspond to the expectations of the husbandman.

The amount of the population of China has been differently stated in the course of the recent debates upon the Canton question, and a facetious contemporary has suggested that Mr. Gladstone and Mr. Cobden should be sent to the celestial kingdom, and not allowed to return before they had ascertained whether it amounted to two or to three hundred millions. The absence of these gentlemen might be indefinitely protracted, if their restoration to home depended upon their ability to confute or verify their respective assertions. The census in China is drawn up in obedience to a paternal mandate of the emperor, commanding his children well and truly to inform him of the number of free persons in their households. This mandate is addressed, in the first instance, to the chief mandarin of a province, and by him circulated, on a descending scale, through a long avenue of officials. But the national vanity of the Chinese people is said to interfere greatly with the accuracy of the returns. Sons, inasmuch as they remain always under the *patriapotestas*, are valuable commodities in China, where Professor Malthus has not a single follower. The *paterfamilias* accordingly is rather apt to exaggerate than underrate the number of his male olive-branches. Next, a village or township is justly vain of reporting to the father of all its superiority in population to the next hamlet, and thus is also under a temptation to make the most of its masculine contents. A district, a province—there being no capitation-tax in China—share in this patriarchal emulation;

and the emperor, when the account is laid before him, perhaps rejoices in the appearance rather than the reality of his wealth in children. There can be no hesitation in estimating the population of China at between 200 and 300 millions; and in describing it, in spite of the practice of frequent child murder, and of occasional dearth, as one of the most thickly peopled regions of the globe. The government of a family, or a tribe, by the eldest representative of their original proprietor, is one of the earliest facts in history, and has been the occasional dream of the philosopher. That a few score of persons, whose avocations were those of herdsmen, and who had no fixed property in land, might harmoniously combine under a single chieftain, the priest of their simple worship, and the arbiter of their temporary disputes, can readily be conceived. No political rivalry, no conflicting claims of property, beyond an occasional controversy about rights of pasturage or watering, could ruffle the surface of such a community. But from the moment when fields began to be divided by boundary-stones, or fenced cities to be built, the society of the desert became an impossibility, and more stringent rules of government were required to protect the weak, and keep the strong in awe. The household has been well defined by Aristotle as the germ of all political institutions; but it was, in his conception, their ultimate analysis, and not their proper condition. In the vast steppes of Asia the patriarchal form of society has subsisted the longest, because there the circumstances in which it began and flourished continued to exist. That the government of China was originally imported from the tribes on its north-western frontier there seems no reason to doubt; and when we come to consider the cities, we shall see that they still reflect, in many particulars, their prototype—a Tartar camp. But the anomaly in China is, that that country alone has preserved, in form and pretensions, at least, the patriarchal system, although for more than two thousand years its inhabitants have ceased to be herdsmen or shepherds, and developed an extremely artificial system both in social and political life. The fiction is ludicrously inconsistent with the facts of Chinese society. From the humblest head of a family to the emperor himself, the idea of the *patria potestas* universally prevails. The sons of the house are never emancipated; the *jus paternum* expires only with the patriarchal life. But the chief or head-borough of a village is also the reputed father of all its inhabitants; and he, in his turn, is *in loco filii* to the next officer of the district. The heads of the districts look up to the provincial governor as their father, the provincial governor to his mandarin, and the mandarins stand in the relation of eldest sons to the supreme father of the nation. Such is the theory—and as a theory it wears an aspect of propor-

tion and benevolence which entitle it to the highest respect. But such is not the fact. Virtually, the father of two and a half or three hundred millions of men sits above them as a conqueror, is of foreign extraction, is guarded by aliens, and like the Cæsars of Rome and Byzantium, depends for his throne, and even his personal security, upon the awe which he inspires, upon the jealousies he foments among his subjects, upon the activity of his spies, upon the force of habit, upon nearly every motive except that of filial or paternal love. Perhaps the system of government under which China has subsisted, and indeed flourished, is the most astounding monument of conscious duplicity on record. It by no means follows that if the rebellion which so recently raged, and perhaps still rages in its interior, be finally triumphant, and terminate in the restoration of a native dynasty, the patriarchal theory will be abolished. Exempt as China has been from foreign invasion, except by the kindred tribes of Central Asia, it has been frequently the arena of sanguinary civil wars. On its plains have been again and again acted tragedies of as deep a dye as the wars which destroyed the empire of Charlemagne, as the civil furies of the Jacquerie and the Anabaptists, or as the struggles which during thirty years tore in pieces the old German empire. But whether the Mongols or the Mantchous established themselves at Nan-king, or whether native pretenders ascended the vacant throne, the reigning emperor of China has uniformly assumed the benign attributes of a father, and governed his people as an Arab Schiek governs his tribe. There seems, indeed, to have been, in all ages, a remarkable energy in the native Chinese character, enabling it to overcome its conquerors, and to compel or persuade them to adopt its own maxims and prejudices. The isolation and arrogance of the Chinese people are perhaps the results of its success in thus "taming the proud." Situated at nearly the eastern extremity of the old continent, it has always been inviolate by sea, and sundered by chains of mountains and inhospitable wastes from the civilized races of India and the West. They have, in fact, had no standard by which to measure themselves. They have invariably tamed the strong by their superior civilization; the rumours of the civilized West, which reached them through travellers like the Venetian, Marco Polo, or the Jesuit missionaries of later date, would inspire them with more contempt than respect for what they heard of distant lands. The little republics of Italy, which the Venetian envoy might describe to their learned men, would appear to them in the light of petty towns, of little more consequence than the lesser cities that lined the banks of the Yellow River; and the might of France and Spain, which the Jesuit missionaries might recount to them, would confirm their

self-exaltation, since their armies were the more numerous, their advance in the arts at least equal, and the area of their land would contain both of these vaunted kingdoms, and leave room and verge to spare. From the complacency with which they regarded themselves, as well as the contempt or incuriosity with which they listened to the accounts of things unseen, the Chinese imbibed the obstinate conservatism of their character. A great and an understanding people, they argued, were our ancestors. They won the good land which we inhabit; they purged it of wild beasts, and drained off its superfluous waters; they planted the wilderness with corn; they lined the rivers with chains of flourishing cities; and they invented, centuries ago, arts, of which the barbarians are only now becoming cognizant. The maxims by which they ruled themselves we will abide by; they have made and they will keep us powerful and prosperous. Surely we shall do well to depart from them neither to the right-hand nor to the left.

Externally contemplated, the administrative system of China is entitled to high respect, and is indeed as laudable and specious as any system of pure centralization can be. Neither is it any demerit that public opinion is entirely excluded from it, since the interference or even the existence of public opinion is an idea alien from the Asiatic mind. If the emperor be a *roi fainéant*, his indolence or imbecility is never permitted to transpire, for a mayor of the palace or a regency would be equally shocking and incomprehensible to his *filial* subjects. Deception, however, is easy, since the father of his people is impenetrably veiled from their sight; or, if revealed to them on some solemn festival, is beheld from such a distance and with such awe as effectually to disguise his lineaments. *From* him radiate power, honour, and instruction; and *to* him return obedience, homage, and information. In theory, the emperor is accessible to the petition of the meanest of his subjects; for as he is assumed to be the universal redresser of wrongs, it is needful he should be made acquainted with every grievance. In theory also, as he is the fountain of wisdom, he must be pre-eminent in knowledge; his daily studies are in the books of the learned, and the words of his lips are reputed to be taken down by his attendants, and stored up for the instruction of his successors. As the patron of the useful arts, he is supposed to be versed in the crafts and mysteries of his subjects; and as the tillage of the ground is, in Chinese conceptions, the queen of the arts, the emperor annually inaugurates the seed-time of the year by opening the first furrow. He is, moreover, chief priest as well as king; and while he tolerates the sectaries of Buddh, or smiles at the superstition of the multitude, he is the only mediator between earth and heaven whom the state reco-

gnises. With all these attributes, he is not beyond the voice of admonition or reproof. A board of censors is selected from the gravest men of his kingdom to watch his actions and demeanour; and when these deviate from the rules of the sacred books, or the practice of his imperial ancestors, it is the bounden duty of his monitors, even if it be at peril of their lives, to reprehend his errors. The office of censor has not always been a sinecure. We read of one emperor rebuked for consorting with players, another for his intemperate habits, a third for his predilection for the company of foreigners, and several for aspiring to be more wise than their forefathers. A pattern emperor, who gives no handle to rebuke, has no easy life of it: he must live by rule, must never act without a precedent; at certain hours be grave, at certain hours merry; and, in short, entirely forego his volition in order that he may infringe upon no one of the recorded or accredited practices of the ancients.

Some of the inconveniences of eastern despotism have been avoided by the sagacity of those who planned the monarchal system of China. There is no hereditary succession to the throne, but the emperor chooses one among the members of the royal house to fill his place when he abdicates or dies. The choice of a successor has generally been creditable to the chooser; and if now and then honours have changed manners, yet, unless flattery has obscured their actions, the proportion of good emperors has predominated. Generally, however, the direct and collateral scions of the imperial houses are a rude and worthless set, whom it is often expedient to disperse and ventilate in the frontier provinces, or even seclude for a term of years, or for life, from the court. Occasionally we find the Tartar colonels investing a member of the royal family with the yellow robe, as the prætorians of Rome arrayed a Cæsar with the purple. But these deviations from the ordinary mode of appointment are rare; nor has the Chinese court, though by no means unstained with crime, ever presented such bloody scenes as have so frequently disgraced the Mahommedan seraglios at Bagdad, Ispahan, or Constantinople.

It was the boast, and not altogether an empty one, of the first French revolutionists, that they abolished the aristocracy of rank, and substituted for it the aristocracy of talents. In so doing, however, they merely introduced into Europe the long-established practice of China. It is, perhaps, essential to the complete isolation of a paternal despotism that it alone shall be exalted, and all beneath it depressed to a common level. Whatever may have been the cause of a practice so specious in seeming, the effect of it has been for many centuries to secure for the state the services of the ablest and most learned persons in the realm. Indeed, but

for such avenues to preferment, the *literati* of China would either be few in number, or puzzled for their livelihood. There are no barristers and no clergymen, and the medical profession has never been in much repute. A government, however, which manages all the affairs of its subjects, has occasion for an immense staff of *employés;* and numerous as the learned class has ever been in China, it has seldom been neglected or starved. Education is common, and cheap; books are plentiful, and easily obtained; and as every student may present himself for examination in the Civil Service department with the certainty, if he be not plucked, of getting some post or other, no one can reasonably complain of the hardships of the scholar's life. "The ouside barbarians" are indeed only now taking a leaf out of Chinese books in their competitive examinations for public employments. From the learned class, and from such members of it as have highly distinguished themselves at the examinations, the Ministers of Justice, Finance, Police, and Public Instruction are selected, nor is any preference displayed for birth or rank, even though the blood of Confucius flow in a candidate's veins.

The order and constitution of the various governmental boards imply a well-organised system of administration, by which the privileges of the ruler are secured, while the claims of the people are not overlooked. The supreme direction of affairs is intrusted to what may be termed the Cabinet of Pekin. It is designated the "Inner Court," and forms the Cabinet Council, the members of which are the *Ta-hyo-si*, or ministers of states. The Privy Council, like that of England, is never assembled except on very urgent occasions. It consists of the members of the "Inner Court," and the presidents of the Supreme Tribunals, with their assessors and secretaries. The Supreme Tribunals are six in number:—1. *Li-pu*, the Board of Ranks and Dignities—the Herald's College taking precedence in China, where politeness is an art, and precedence a grave consideration, over every other department of government. 2. *Ha-pu*, the Board of Revenue. 3. *Li-pu*, the Board of Forms and Ceremonies—not less important or less occupied, in a nation so formal and ceremonious as the Chinese, than the Home Office in Downing-street. 4. *Hing-pu*, the Board of Penal Law. 5. *Kong-pu*, the Board of Public Works. The Sinensian Sir Benjamin Hall has no sinecure, for the roads and canals, *i.e.* a fifth of the area of the empire, come within his department, not to speak of the imperial "woods and forests," and some hundreds of fortified towns. 6. *Ping-pu*, the Military Board, for which Commissioner Bowring seems likely to cut out some extra work.

Our limits forbid us to enter more at length upon the particular functions of these boards, and we must pass on to some

general remarks upon the character of Chinese administration. Much looks well on paper, which in practice works wretchedly; and fair as is the aspect of centralization, in substance it is often the most grinding of tyrannies. "Let a man," says Sir Edward Coke, "consider the office of Justice of the Peace, and the world hath not wherewith to compare with it in dignity." Nevertheless, in practice a Justice of the Peace is often, as is noted in "Hudibras," "an owl," and commits himself in signing the commitment of others. This deeply-organised system is not trusted by its employers. *Divide et impera* is a maxim of government as familiar to the Chinese as it was to the Roman Cæsars. In the higher departments, power is divided equally between the ruling Tartars and the subjugated Chinese. Each of the administrative bodies is made a check upon the others, and all are subject to the open or secret supervision of censors, who address their reports directly to the emperor. The same principle of division extends to the inferior offices in the capital, and to the provinces. Each province has its *Tsong-to*, or Viceroy, and its *San-fa*, or Governor, who are equal in authority though not in rank, since precedence is always accorded to the Tartars. In all differences, appeal must be made to Cæsar alone; and his imperial mind is accordingly the general depository of the fears and jealousies of his deputies and representatives.

It might be thought, indeed, that Jeremy Bentham derived his idea of a panopticon prison from the theoretical position of the Chinese autocrat. In Bentham's penitentiaries, some one man was to be so placed as to discern from a centre, whence every cell radiated, the occupations and even the countenances of all the prisoners. The "sun of heaven" is in like manner supposed able to discern whatever is passing in any part of his vast dominions. In theory he reads every petition, and examines every report; in theory he returns the answer, and supplies the marginal correction. In theory also he is the Grand Inquisitor of the kingdom, the Head of the Police, the Master of the Ceremonies, the Chancellor of the Exchequer, and the Lord Chief Justice, since he is supposed—*fingunt simul creduntque*—to inspect the journals of every one of his administrative boards. The circumstances of his position recommend to the Chinese emperor the jealous policy of Tiberius. Every three years he changes the posts of all his officers of state, summons them to his presence at the commencement and the close of their appointments, detains their sons as hostages in their absence, requires from them a true and faithful account of their administration, and surrounds them with spies so long as they are in office. These endless precautions are indeed a corollary from the patriarchal form of government. Sufficient for a tribe, it is not extensive enough for a province,

much less for an empire; and the shortness of the royal arms is supplied by a complicate machinery of check and counter-check.

We have now rapidly glanced at the agricultural population, the learned class, and the administrative system of the Chinese empire: but our review of its industrial resources would be incomplete without a survey of its rivers, its canals, and the myriads who occupy their business beside those inland waters. To her rivers, China is chiefly indebted for her vast population and general fertility. Among a number of important streams, some of which exhaust themselves in vast lakes, while others flow onward to the sea, the "Yellow River" (*Hoang-ho*) and the "Son of the Ocean" (*Yang-tse-kiang*) bear pre-eminence. These two magnificent streams, whose rise and destination are nearly similar, descend rapidly from the great table-land of Asia, are presently forced by the mountain-ranges to describe two immense and opposite semicircles, are separated at one point of their course by an interval of 1100 miles, and appear destined to lose themselves respectively, the latter in the tropical seas, the former in the icy deserts of Mongolia. But suddenly recalled, as if by an irresistible remembrance of their original brotherhood, from their wide gyrations, they converge from the north and south, and terminate their long wanderings in the eastern sea, only 110 miles apart from each other. These, its natural arteries, aided as they are by innumerable tributaries and satellites, would alone confer upon China an almost unrivalled chain of water-communication. But the hand of man has seconded the bounty of nature, and connected by a network of *canals* the rivers and their feeders. In this respect, nor "Babylon," with its artificial rivulets, nor "great Al-Cairo," with its Nile-sluices, is worthy to compete with China. The greatest of these canals, including its bends and elbows, is more than 720 miles in length. For the first three hundred miles, it flows through a level waste, which presents few obstacles to the engineer; but as it approaches, and after it proceeds northwards of Nan-kin, it pierces hills, it is borne over undulating plains upon substructions of earth and brickwork, it passes through a chain of lakes, and intersects innumerable rivulets. Its original purpose was to connect the "Son of the Ocean" with the "Yellow River," but as the empire extended its limits, it became necessary to elongate the great connecting link of its provinces. In contemplating this artificial highway, it is hardly possible to avoid comparison of it with the great roads which under the Cæsars ran almost in a straight line from Syene in the south of Egypt, and York in the north of Britannia Romana, to the Milliarium in the Forum, grasping, as it were, in one wide embrace, the Celts of Thule and the "dusk faces" of "Nilotic Meroe."

Nor needs China to shrink from the comparison, although hitherto *her* "Regina viarum" has remained uncelebrated. Apart from the engineering difficulties that have been surmounted in their construction, her canals are a proud monument of useful as well as arduous toil. They convey the produce of the empire from one province to another; redeem from absolute or partial sterility many hundred thousand acres of productive soil; connect her present remote capital with the very heart of the realm; afford employment to a dense population; and transport swiftly and economically the heralds or the troops of the central government. Nor, although their course is generally uniform, is the spectacle from their banks void of interest, or even at times of picturesque beauty.

"At certain periods of the year all Egypt is on the water," is the remark of an historian, who had just witnessed the great Saitic festival of Isis. Had he visited China, Herodotus might have said that many hundred thousand of its inhabitants rarely set foot on dry land. The amount of river-craft employed by the government alone, in the collection of taxes in kind, is enormous. Ten thousand imperial barges ply up and down the imperial canal and its lateral branches, receiving and depositing in the public granaries the rice and grain due to the exchequer. The salt-trade, a government monoply, requires nearly as many; a vast number is also occupied in conveying from one place to another the copper currency, as well as the lighter or more luxurious articles of commerce which pay tithes—cotton, silks, &c., raw and manufactured. A boat in China, as in some parts of Holland, is frequently the house of the family, in which its members are born, brought up, arrive at man's estate, marry, and die in old age. An infinite number of trades is carried on in these floating workshops; and in ascending or descending the rivers and canals, it is no unusual thing to meet the blacksmith's forge and the carpenter's yard amid a flotilla of fishermen, fowlers, and washer*men*. This water-population is, indeed, among the causes of the general indisposition of the Chinese, until a comparatively recent period, to emigrate. The habitable area of the country is nearly doubled; the land not overburthened by occupants is left free for tillage, and some of the inconveniences of a dense population are avoided by the facility of moving easily from place to place. The occupations of the fishermen and fowlers of China, as well as of the numerous class which attends the droves or flocks of domestic water-fowl for the market, are described in the most trivial works on China; but the attraction of its towns and cities to the banks of its canals and rivers has not been so generally noticed. Towards the central parts of the country, near the points where the

Hoang-ho and the *Yang-tse-kiang* intersect the great canal, the shores on either side are covered, as far as the eye can reach, with cities, towns, and villages, which, from a little distance, seem to form one uninterrupted avenue of streets. The picturesque character of the scene is enhanced by the vast number of light stone bridges, of one, two, or three arches, and on certain festivals of the year these long vistas of buildings, brilliantly illuminated, cast upon the intervening waters the varied hues of myriads of coloured lanterns.

As seen from without, the aspect of a Chinese city, although strange or grotesque to European eyes, is by no means unpicturesque, since the inhabitants delight in brightly-painted houses, and the forms of their domestic architecture are not ungraceful. Within the gates, however, three of the senses are offended by the disorder and often the dilapidation of the houses and thoroughfares, by the incessant and discordant din of the multitude, and by the universal filth and evil smells. The original type of a Chinese city was the nomade camp of their ancestors, and to this day the great cities—Pekin, Nankin, and Canton—reflect the image of an extemporary encampment. The houses are low, with carved, overhanging roofs; no chimnies or mansions of three or four stories high break the monotonous line of the streets; while from nearly every dwelling, as from the booths in a fair, protrude poles, flags, and gaily-coloured streamers or placards. The eye is pained and bewildered by the glare of the gilding, the varnish, and the painting of the shop-fronts; by the bright colours of the lanterns of horn, muslin, silk, and paper, that adorn the houses or span the streets; and by the numberless pictorial inscriptions which, parading the articles on sale, assure the passengers that "we don't cheat here." The ear is equally tortured and confused by the universal hubbub that prevails "from morn to dewy eve;" by the indescribable noise of tinkers, cobblers, and blacksmiths, plying their several trades in little portable shops, and proclaiming shrilly (for the Chinese, not less than the Arabs, are *peuple criard*) their superior skill and their low charges. Buying, selling, and bartering, are all and each conducted in soprano tones; and the *sotto voce* composure of customer and shopman across an English counter would seem to a Chinese tradesman utterly unbusiness-like. In joy or in sorrow they are equally clamorous. Nothing is so noisy as a wedding, unless it be a funeral; and it is hard to say whether carrying home a bride or a corpse causes the greater turmoil or obstruction in the streets. The Chinese policemen are not deficient in vigilance, and the prompt punishments which the sitting magistrates inflict is of a kind seldom received in silence. But neither the officers nor the ministers of justice are potent enough to clear

the streets, or to impose even momentary calm on the passengers. A dead lock, indeed, is often more than a daily occurrence. A string of camels encounters a drove of heavily-laden bullock-wains, or a line of mules bending under pack-saddles. At the same instant there is a shout of "room" for a magistrate and his lictors, not unattended with the cracking of whips and a hail of bamboos. A funeral and a marriage procession have got mixed together, and the squalling music of the bridal party is not inappropriately accompanied by the dismal howling of the mourners. Jugglers, conjurors, mountebanks, quack-doctors, musicians, and players,—all contribute their several quotas to a Babel, which might justify a second dispersion of mankind; and in the midst of this wilderness of discord is constantly heard the twanging noise of the barber's tweezers, like the jarring sound of a cracked Jew's-harp. It is fortunate for the senses of the inhabitants that the setting sun terminates this chaos. The Chinese are not minions of the moon. "Tired nature's sweet restorer" is duly appreciated by them; and as soon as the evening shades prevail, the silence of the streets is broken only by the tramp of watchmen, or the howling of importunate dogs.

The strength of the Chinese empire consists in the ability of its people to labour, in their industrial habits, and their aptitude for organization; and we might, perhaps, altogether omit from our survey a notice of its military and naval forces. In regular warfare we have probably little or nothing to apprehend from any forces which they can at present bring against us, either on the land or the ocean; yet it must not be forgotten that, although undisciplined and ill-armed, they are not deficient in personal courage; that they are blindly attached to their own country and institutions; that, in case of a general war, they will be contending on their own soil, and with the zeal inspired by their fanatical hatred of strangers, against a handful of enemies; and that their reserves of men and magazines will be out of all proportion to our numbers or resources. Because a speedy termination of our present quarrel is probable, it should not be overlooked that a tedious and obstinate war is not impossible. Neither have we any right to account among our advantages the accidental circumstance that at this moment China is an empire divided against itself. It is one thing to have taken up arms against a reigning dynasty: but it does not follow that the rebels will therefore be our allies. The doom of the Greek empire was more than once averted by the returning loyalty of the provincials on the approach of a common enemy; and though the prefectures of Thrace and Illyricum resisted the imperial rescripts, and even profaned by defeats the majesty of the Comneni, they rallied around their emperor as soon as the crescent actually menaced

the safety of the cross. Whatever may be the present weakness of China, it has not yet arrived at the final estate of the Greek empire. The obedience of some of its provinces may be suspended for a while, but they have not been violently torn from it, and apportioned among aliens. The Tartar dynasty may be approaching its dissolution, but the integrity of the Chinese empire, as regards adverse possession against foreigners, remains intact. We are too imperfectly informed of the causes of the Chinese rebellion to pronounce a judgment upon its origin, or to speculate upon its issue. But whatever these may have been—whether one of the religious movements which at certain eras have shaken the thrones of the East, or mere impatience of misgovernment, or a revival of loyalty to the race of Ming—there is no symptom that either the Chinese people are more ready than formerly to amalgamate with strangers, or instigated to rebel by any leaven of discontent infused into them by Christian missionaries. If the rebels, indeed, as has been sometimes surmised, have attained to a dim knowledge of the faith of the West, they more probably regard it as an auxiliary to their own sacred books than as a motive for raising the banner of Christ against the orthodox followers of Confucius.

Sir Dugald Dalgetty, who was so scandalized by the bows and arrows of the Children of the Mist among the civilized weapons of Montrose's host, would have been still more shocked by the appearance of a Chinese army. The matchlocks now in use among them are the old Portuguese matchlock of the sixteenth century, which bears about the same relation to our "old Brown Bess," that "Brown Bess" bears to the minié rifle. The Tartars, mostly cavalry, are soldiers by profession. Their arms are bows and broad scimitars; and in comparison with the cumbrous and uncertain matchlock, the bow is not to be despised. The scimitar is worn on the left side, like a gentlemanly and christian sword; but it does not, like that appendage, dangle at the hams of its wearer; neither is it ever carried jauntily upon his arm, but protrudes forward shockingly, and is drawn by carrying the right hand behind the back, for the prudent Tartar is of opinion that to draw it from the front of his body would expose his arm to an adversary. Of these Tartar forces, which are the *élite* of the Chinese army, there are eight brigades, or "banners." The native soldiers are for the most part a militia, who perform many of the functions of a *garde civique;* and as they are permitted to follow their peaceful avocations during at least two-thirds of the year, they possess about as military an aspect as citizen soldiers usually wear. Their ordinary employments are, to guard the city gates, to carry Government expresses, to act as custom-house officers at the military stations along the roads, rivers, and

canals; and to aid the civil magistracy as policemen. In dress and appearance they resemble the valiant supernumeraries who represent in provincial theatres the armies of Richard or Rolla. Their helmets are made of paper; their boots of a coarse satin; and their uniform consists of a wadded gown and a quilted petticoat. Instead of a military salute, they acknowledge the presence of an officer by falling on their knees; and in warm weather they ply their fans as assiduously as any dowager duchess in an opera box in July. The Government has occasionally betrayed misgivings of the effect of these military phenomena upon barbarians. There was great anxiety that Lord Amherst should report favourably to his Britannic Majesty of the martial bearing of the "celestial host." "Through the whole route," proclaimed an imperial rescript, "take care that the soldiers have their armour fresh and shining, and their weapons disposed in a commanding style, and that their attitude be dignified and formidable." The authorities, however, cannot be accused of indifference to the feelings of the soldiers, at least if they have the luck to fall in battle. The body of an officer is burnt, and his ashes, with his armour and a pompous eulogy, are sent to his friends; the bow and sword of a common soldier are transmitted to his family; rewards are distributed; and honourable mention of the deceased made in the *Pekin Gazette*.

The numerical force of the military and naval establishment of China is, like its population, enormous, since all males are enrolled for service at a certain age. This levy *en masse*, indeed, is rarely, if ever, called for; and extraordinary contingencies, such as insurrection in the provinces, or the suppression of bands of robbers, are met by extraordinary levies in the immediate or adjoining districts. The present rebellion has summoned more men into the field than any former period of the reigning dynasty; yet, on the other hand, the imperial army has been greatly thinned by desertion to the banners of the insurgents. With that care for family life which distinguishes the Government, many exemptions are granted from military service. An only son, or a son who supports his infirm parents, are both exempt; and the *jus liberûm* also prevails, since the father of a numerous family of sons is deemed to have discharged his share of duty to the commonwealth. In a country where the means of living are cheap and abundant, and the simple accoutrements of war are of home fabric, and of an ordinary kind, the cost of arming and maintaining a numerous militia is comparatively slight; and without seriously taxing his finances, the emperor can bring into the field a host at least as numerous as the kingdoms of France and Prussia united. But number would be the only point of resemblance, since in action a few European

regiments would be able to discomfit the largest array of the celestial empire.

To an invader from Europe the naval force of China is less formidable even than its army. In nothing, indeed, has the conservative spirit of the people displayed itself more strikingly than in its naval architecture. With a coast extending nearly 2500 miles,—with a few capacious, and with the aid of art almost impregnable, harbours,—and with an unsurpassed inland water-communication, the Chinese have made little or no progress in navigation since the fourteenth century. Five hundred years after Marco Polo described their marine, Lord Macartney saw in their ports the very same kind of awkward, antiquated, and unwieldy vessels; and the accounts of recent travellers confirm the description of Lord Macartney. Their anchors are still of wood; their ropes and sails of bamboo; and law or unalterable prejudice still prescribes the form of the stern and the rudder, and the number of compartments in the hold. Their military navy is indeed unworthy of the name; it is a mere flotilla, whose principal occupation is that of transports for soldiers, or revenue cutters—and the Admiralty at Pekin has frequently been brought to the disgraceful necessity of taking into its pay a few serviceable pirate schooners, or submit to the blockading and pillage of its own harbours. The boats and barges built for internal commerce are, however, although sufficiently antiquated and heavy sailers, commodious when compared with the Government navy. Their form is also in some measure attributable to the purposes which they serve, and to the peculiar waters on which they ply. For, inasmuch as a barge is often a dwelling-house, its deck and hold must be adapted to the purposes of housekeeping, and contain a kitchen and numerous sleeping apartments, besides coops for poultry and pens for cattle. The passage-boats on the Grand Canal afford the best specimens of Chinese naval architecture: and these are built after a pattern suited to the depth and velocity of the stream, and the width of the locks and flood-gates that regulate its level. As the activity and material wealth of China are most advantageously seen at the point where its two great rivers intersect the canal, so this is also the most favourable point from whence to contemplate its large, and small, and infinitely varied river-craft. For here may be seen, in motion or at rest upon the waters, a forest of masts and an almost inextricable maze of vessels, from the imperial junk to the tiny pleasure-boat, gliding with the stream or working up against it by oars, sails, and wheels, adorned with grotesque effigies of dragons, lions, and heraldic monsters, and decorated with the profusion of gilding and bright paint so dear to the eyes of every born Cathaian. As

this point of intersection, where the multitudes of river-loving China most do congregate, is by no means inaccessible to English steamers, we suspect that an English Plenipotentiary, who should present his credentials there, backed by a few gun-boats and a reserve in the offing of a man-of-war or two, would have a much better chance of obtaining a soft answer and substantial concessions from the Government, than if he wend his way to Pekin, and demand a conference with the "Yellow King."

A land so permeated by navigable waters may be not difficult to assail, but it is also proportionally easy to defend. Across every canal, every river and its tributaries, a boom, a chain, or a strong breastwork of boats may be drawn, and a succession of tedious, if not very formidable, obstacles erected against an invader. But the impediments to be overcome would not always be such as may be directly confronted. The flanks and rear of an advancing armament would be incessantly harassed from every point where a cutting or a natural stream enters the great highway of the waters; and indifferent as Chinese naval gunnery may be, it is not quite innocuous, and would atone in some measure for defective skill by overwhelming numbers. It is possible, indeed, that the population of Canton may be peculiarly arrogant and averse to foreigners. But the whole mass of the nation is leavened with hatred and jealousy of strangers, and convinced that "the peculiar people," protected as it has been by the isolation of centuries, has nothing to gain, and much to lose from the advent and innovations of the outside barbarians. The very prejudices of the Chinese would render them capable of war to the knife.

The defences of a country are natural or artificial; and China, in some degree, combines the physical advantages of a mountainous region with the native resources of a fen-land. In the long line of internal navigation between Canton and the capital, the traveller encounters every variety of surface disposed in vast homogeneous masses. For many days his course will be through an unbroken plain, stretching on all sides to the horizon, and diversified only by tall pagodas, or by the artificial mounds where the dead repose. For as many days he will be encircled by lofty and barren rocks, and descend through their passes upon lakes, swamps, and morasses. It is doubtful, so little is really known of the interior of this vast country, whether the population be equally diffused over its surface, or collected in masses around the great lines of communication between the south and north. The accounts of the Jesuit missionaries, and of the Dutch envoy, Van Braam, are so dissimilar to each other that they might be supposed to relate to two opposite regions.

The Dutch embassy set out in winter, when the canals were frozen, and it was necessary for them to be carried overland in small bamboo chairs. For eight or ten miles together there was no visible trace of culture, nor habitation of any kind. Huge shallow lagoons covered the greater part of the soil; until they had crossed the Yellow River no tracks of wheel-carriages marked out the roads; the streams when not fordable were crossed on bamboo rafts; the few towns and villages which they passed were crumbling to decay; and an indigent and oppressed people possessed neither the means nor the wish to be hospitable. The Jesuits saw the land at a more favourable season, or visited happier districts of it. They describe the dry plains of Petcheli and Shantung as abounding with cotton, and many kinds of grain and pulse; the more varied surface of Kiang-nan as fertile in wheat and millet, in the yellow cotton-plant and mulberry-trees, and yielding abundant supplies of the luxuries as well as the necessaries of life. Even the swamps and morasses sustained a numerous population of fowlers and fishermen; while the porcelain manufactories of Kiang-see attracted as much busy life as the English potteries. A redundant population was an universal feature of these diversified scenes. Had an ancient traveller passed cursorily through them, he would probably have imagined himself in the land of the Amazons, since, although he would have beheld thousands of men, and hardly one woman, the long gowns and petticoats of the masculine gender might have been easily mistaken by him for the habiliments of the opposite sex.

Such a country is easily defended, provided the inhabitants of it be averse from change and well-affected towards their rulers. Every mountain-pass, every dyke and morass, may be rendered a formidable barrier, and even winter and artificial dearth become auxiliaries against invasion. But, as the Tartar incursions have repeatedly proved, China can place little or no reliance in its military strength. Twice since the Christian era they have conquered the whole country, and changed the ruling dynasty. And once conquered it is easily retained, since it hardly possesses any fortress capable of protracting a war or affording refuge to fugitives. From the Great Wall on the northern and north-western frontier to the mouth of the Bocca Tigris near Canton, there is nothing that merits the name of a fortress. All the military architecture of China, indeed, is of one form. It consists of mounds of earth cased on each side with brick, and flanked with square towers at bowshot distance from one another, resembling closely the *vallum* with which the Romans at first defended their provinces on the banks of the Danube or the Rhine. The best defences of China are its rugged mountains, its sandy

deserts, and stormy seas; the power which it has, in common with Holland, of inundating its plains; the hostility of its people to strangers—with their congeners the Tartars they easily fraternized; and its remoteness from the civilized West.

There are many other aspects under which we should desire, if our limits permitted, to regard China, its people, and institutions. But we can now afford space only for two phases of them in which national character is usually most instructive and expressive—the earnest feelings which it embodies in religion, and the sportive feelings which it displays in its popular amusements. Under the head of religion, we shall include a glimpse at its philosophy; and under that of its amusements, the ceremonial usages that adorn or encumber its social life.

During the latter half of the eighteenth century, when the philosophers of France pervaded Europe with theories of government and social science, it was the fashion to appeal to the East for precedents in ethics and legislation, and to cite the precepts of Brahma and Confucius as oracles of wisdom. The writings of Chinese sages were liberally, though uncritically, cited by Helvetius and Montesquieu; the obscurity which then hung over the Middle Kingdom favoured the exercise of fancy, and its civilization was magnified to the scale of a Utopia or an Atlantis. The frame-work of European society was then on the eve of a mighty change: wearied with their old and effete doctrines, secular or spiritual, men sought for examples of order and truth in regions remote from Christendom; and because, of all the civilized realms of the East, China was then the least accessible to Europeans, speculative and learned men invested it with attributes as extravagant as they were groundless.

These twilight fancies have disappeared before clearer and more authentic knowledge; and we now behold in China a region which, so far from outstripping other nations, has lagged behind them in the race of civilization. The two inventions which have most affected Europe—the discovery which, above all others, has extended our acquaintance with the globe, were known in China earlier than in Europe, yet *printing* has not awakened or guided among them public opinion; *gunpowder* has but slightly changed the character of their armies; and the *use of the compass* has neither made them skilful mariners nor inspired them with the spirit of maritime adventure. The effects of a blind and obstinate conservatism are nowhere so palpable as among the Chinese. The general barriers which have in all ages severed the eastern from the western man are the power of the priesthood and the bondage of castes. Voluntarily or unconsciously, the votaries of Brahma surrendered their free will and action to those ancestral corporations which claimed to speak with the voice and to admi-

nister the mandates of Heaven. Before he came into it, the place of every man on earth was fixed by inscrutable decree; and since he had no power to rise above it, he had no motive for ambition or self-improvement. But these metaphysical restrictions have not pressed upon the Chinese. Castes have never existed among them, and the State religion at least has never been swayed or clogged by an established priesthood.

It does not enter into our present purpose to examine the creeds or even the peculiar distinctions of the Chinese sects, but to confine ourselves to religion so far as it is a State machine. Religion in China stands apart from every known form of Oriental faith, inasmuch as it lays no claim to a Divine origin. Another peculiarity of it is—and in this respect, again, it differs from all other Eastern systems—that the civil and religious institutions of China are almost independent of each other. The State rarely, if ever, appeals to the authority of religion, and seems nearly to realise Bayle's famous, though almost now forgotten hypothesis, of the possibility of a commonwealth of atheists. Three sects are recognised as legitimate by the Government, but it gives preponderance to none of them. The faith professed by the learned may, in some degree, indeed, be designated as the religion of the State, because from the learned class are taken the officials of the governing body. Moreover, of the three recognised sects, that of *Ju-kyao*, or the learned, is the most conservative, and accordingly most in unison with the national adherence to custom and precedent. Of the *Ju-kyao*, Confucius, who lived about four centuries and a half before the Christian era, is the reputed founder. The philosopher and his followers profess to retain unaltered the primitive faith and institutions of their forefathers. It is, however, a philosophic as much as a religious creed; its more abstruse doctrines are reserved for sages; while it condescends to provide for the vulgar a sufficient, and not altogether an unimaginative system of belief. Confucius, like Plato and the Sophists, believed the multitude incapable of enduring the exposition of mere truth. For the learned, therefore, he reserved the metaphysical enigmas of the eternity of matter, the indivisible and indestructible nature of the Creator, his effluences and emanations. To the vulgar he conceded a mythology capable, as he deemed, of fixing in their minds, by means of visible objects or their symbols, general notions of good and evil, and of future responsibility. From the primitive religion which he proposed to revive, he derived the adoration of the earth and sky—the one as the common parent and nurse of man, the other as a visible emblem of the Supreme Being. To these simple personifications he added the genii or tutelary spirits of the soil, of grain, of the hills, rivers, forests, winds, and fire. The spirit of the ocean he typified

by a dragon-king; his god *Terminus*, the Guardian of Borders, was a deified hero; the lights of the firmament were worshipped under the symbol of the Queen of Heaven; and articulate speech, which divides man from beasts, he commemorated under that of the Genius of Eloquence. The doctrines of Confucius, however, appeal less to the heart than the senses or understandings of their votaries, and demand rather a calm acquiescence than a lively or zealous faith.

For nearly five hundred years after the death of Confucius no innovations were made in his system, or in the earlier and more metaphysical doctrines of Lao-Tsé. In the latter half of the first century before the Christian era a third sect sprang up, which—a modification of Buddhism—is the religion of the present dynasty, but not, therefore, the religion of the State; for the Chinese Government, except for political motives, has never been guilty of intolerance,—and though it has frequently punished schismatics with excessive and scandalous severity, they have suffered for their rebellion rather than their dissent. Religion, in the eyes of these politic statesmen, is not a divine law which it is the duty of every man to obey, but an engine of policy to be dexterously employed. The present rebellion is surmised to be the effect of the formation of a new religious element, and to derive its strength from the faith or fanaticism of the insurgents. But all accounts of it are so vague and contradictory, that we are quite unable to determine, at present, whether secular or spiritual discontent has raised the banner of revolt. The general latitudinarianism of the Chinese is, however, less doubtful; the indifference of the Government is partaken by the learned, and in some measure by the people also; and they look with equal apathy upon the asceticism of the priests and monks of Fo, and the exertions of the Christian missionaries in the work of conversion. A religious war, or even a partial outbreak of zeal, like that of the Iconoclasts of the Greek Empire, or the Anabaptists in the fifteenth century, is apparently not likely to accelerate the decline or fall of the Celestial Empire.

The philosophic indifference of the learned and the upper classes has not, however, checked the growth and practice of superstition among the people. Their credulity is unbounded; the objects of their fears and supplications are innumerable, and the ceremonies by which they hope to avert the wrath of evil spirits, or secure the favour of good ones, would amaze even a Neapolitan lazzarone. Evil spirits, not content with their own hideous forms, assume the shape of frogs, apes, or foxes, and plague their victims with ill luck in their fields and shops, and with disease in their bodies. Luckily, the demons have a rooted dread of noise and incantations; and since the priests

of China are the noisiest of ecclesiastics, and very ingenious in devising charms, they chant, howl, smoke, and drum away the foul fiend with very general success. Candles and strips of gilt paper are deemed pleasing to the spirits of the woods and fields; and the ploughman deducts from his scanty wages a portion in order that he may gratify these rural deities. The Chinese calendar is as well stocked as that of ancient Rome itself with *Dies Fasti et Nefasti;* and whereas we reckon it a wholesome practice to begin our work in the early morning, the Chinese account midnight the more auspicious season, because then, according to the Buddhists, the world was created. No prudent *pater-familias* will hire or build a house until he has ascertained its aspect, as well as the aspect of its several rooms, and the ability of the dragon on its roof and the screens within-doors to scare away evil spirits. Amid such a population, the astrologer drives a profitable trade; although these star-gazers are mostly blind musicians, in good correspondence with sharp-sighted Bonze-priests.

The moral character of a nation is a more profitable subject of inquiry than either its philosophy or superstitions, and on this head it is scarcely possible to decide between the disagreements of the doctors. We shall not attempt to reconcile them, but request our readers to "look on this picture and on this." Their enemies aver that for hypocrisy and pride, meanness and frivolity, cruelty and fraud, lying and sensuality, the Chinese have not their equals on earth. Their friends maintain them to be a lively, cheerful, and contented people, urbane in the highest degree, ready to oblige, and uniformly civil and respectful. The truth, as usual, lies between these extremes. Their vices may be traced to the baneful influence of a paternal Government, which allows of no liberty of speech or action, carries its system of espionage through every grade of society, and controls even demeanour by a strict code of etiquette. The ceremonial law of the Chinese is indeed ten times more burdensome than that of the Jews, exaggerated as it was by the traditions of the Pharisees. They are born, they live, and die under a system of perpetual coercion, and from their earliest infancy are taught to dissemble the buoyant spirits and lively emotions natural to youth. A Chinese boy is as priggish as a rigid Quaker; a Chinese youth is as grave and stately as a lord in waiting; and a Chinese man is better acquainted with the forms of address, congratulation, condolence, and farewell, than all the court-chamberlains in Europe. There is no nearer road to systematic duplicity than unrelieved restraint; and since, owing to the predominance of etiquette, the suspicious temper of the Government, and the total absence of public opinion, it is scarcely possible to find an occasion for speak-

ing truth, the Chinese lies heartily and universally in self-defence. With his numerous defects, however, some virtues are mixed up; and if the yoke that now weighs him down should ever be exchanged for the lighter pressure of laws evenly administered and forms regulated by reason, there is no cause why the most civilized and industrious nation of the East should not acquire some of the hardier virtues of its Western brethren. The Chinese might, indeed, on his part, read them some useful lessons on the score of sobriety, for he is rarely intoxicated,—of frugality, for he is seldom a spendthrift,—and of obedience to elders and superiors, for he is usually courteous and respectful. And, after all, it must be owned that we view him through a somewhat uncertain medium—the accounts of strangers, whom he abhors, and who, in their turn, detest his modes of life. It requires no great stretch of the fancy to suppose a Chinese turning the tables on his describers. A periodical humourist, some years since, proposed the scheme of a strictly impartial history. It was after the following fashion. He collected the discrepancies of various narratives, and arranged them in the order of contradiction. From this novel species of concordance it appeared that Richard III. was a handsome and hump-backed personage, and among the best and bloodiest of rulers. The execution of Charles was represented as the most scandalous and sublime of deeds, and Cromwell as the most pious and profligate of mankind. It would not be difficult to pourtray the Chinese under equally conflicting phases. On the authority of *variorum* commentators, we might well describe them as obeying the precepts of a mild and rational philosophy, and practising the most odious and atrocious vices. The Son of Heaven might be adorned with all the virtues of a benevolent patriarch, ruling a household of nearly 300,000,000 of souls according to the laws of primeval justice, and at the same time sowing divisions and fostering corruption among them, branding their foreheads, slitting their ears and noses, and nine-tailing their backs. His ministers and mandarins might be impartially represented as the befitting satellites of so dubious a planet, carrying out his paternal or his tyrannical behests, and regarded by the grateful or oppressed provincials as the most beneficial or the most baneful of vicegerents. The mass of the people, again, might, with equal fairness, be delineated as grateful and obedient to the powers that be, dutiful to parents, decorous in manners, sober as if they lived in the State of Maine, and thrifty as if they had by heart "Poor Richard's Almanac." We might then go on to speak of them as the most incorrigible liars and thieves, as the most gross and sensual of nations, and produce a voucher for every one of our statements. An extremely difficult people are the Chinese to describe;

and the perplexed disputants on "the China question" are really deserving of compassion, since, like the irascible travellers in the fable, they who maintain the cameleon to be blue are in the right, and they who affirm it to be green are not in the wrong.

But perchance a minister of the Board of Foreign Affairs in Pekin might feel a similar difficulty in speaking of the English people. From the report in his hands, he might justly say that the outside barbarians profess to regulate their actions by a book nearly as ancient as the writings of Confucius. The authors of this book—the sages and the prophets of the West,—although not always in unison with one another, yet agree generally in preferring poverty to riches, in applauding abstinence and self-denial, and decrying the pomps and vanities of the world. But he might proceed, I learn from another report prepared by a mandarin of great experience in the ways of the English, and who enjoyed in the junk at Blackwall unusual advantages for observing them, that the great distinction between one Englishman and another rests upon his worldly substance. He who rides on horseback is more esteemed than he who trudges on foot; and he who is drawn by horses in a painted box is reputed greater than him who bestrides a saddle. A rich man may, by a sure though costly process, rid himself of a wife who has been faithless to his bed; but a poor one must retain his erring and inseparable spouse. A fortune that would purchase a thousand acres of the best rice meadows in our happy country is lavished upon the education of the wealthy, while the poor, to whom learning in civilized China is wealth and station, are in barbarous England shut out from all the better schools, and myriads of them pass from the cradle to the grave in ignorance of letters. Moreover, the sages of the West inculcate upon their disciples the duty of neglecting this world, and of preparing daily and hourly for another; but so indocile are their hearers that for the most part they are occupied either in amassing riches or in procuring for themselves pleasures on earth alone, and regard the prospect of another and a better world with as much indifference as they regard their own dreams or their neighbours' interests. An extremely difficult people are the *English* to describe.

To a foreigner acquainted with the language and the manners of the English, there can hardly be a more perplexing phrase than that of "merry England,"—since in whatever quarter his observations are made, whether at an "at home" in Belgravia, the taproom at the "Three Cranes," a horticultural fête at Chiswick, or a village wake in Lancashire, he would detect few symptoms of mirth, ordinary or extraordinary. The amuse-

ments with which the Chinese recreate themselves are of a similar sober character, unless, indeed, noise and glare be the tokens of mirth. As regards noise, the drum of the Chinese ear must be of perdurable toughness to endure the incessant and discordant din it is in the habit of receiving; and as regards glare, his eye should be a well-constructed machine, since it everywhere and on all occasions is called upon to encounter bright colours, and very frequently the blaze of fireworks and illuminations. No people, not even the Flemish burghers of the fourteenth century, are fonder of processions than the Chinese. This kind of entertainment, indeed, combines their love of ceremony with their love of show. Their Nathans, and Swans and Edgars, have their lines set in pleasant places, since both marriages and funerals are celebrated with great pomp and cost. In every city and town there are numerous livery establishments, where processions are arranged and supplied with all accoutrements required for mirth or mourning. The contractor furnishes everything,—boxes for carrying the bride's trousseau, biers for the deceased, pavilions for idols—sedans for the ladies, and for the gentlemen also (for it is ungenteel to walk)—banners, tables, articles of vertù;—in short, all the furniture of a drawing-room. The men and boys who carry the flags and the furniture resemble in their garb the attendants on a collection of wild beasts in England, since over dirty under-garments they throw uniforms blazing with scarlet and gold. The processions of the guilds in honour of their respective patron saints recal to us the very similar festivals at Florence or Ghent four hundred years ago. Among these guilds that of the carpenters is the most famous for its splendour. Their hero Lupan, the Tubal Cain of Chinese legend, is borne in a shrine along the streets, followed by the members of the corporation, dressed in holiday robes. Silken banners embroidered with the most brilliant and hideous symbols wave before his shrine; young girls, bedizened with paint and flowers, perched on high seats under artificial trees, are carried upon men's shoulders; bands of music, trays of sacrificial meats and fruits, succeed; and the whole scene is not less gorgeous and grotesque than the final glories of a London pantomime.

In our own land theatrical entertainments have seldom the sanction of the Church, and even a benefit-night for an hospital or for distressed weavers is viewed with alarm and suspicion by divines. But in China the stage and the temple are upon better terms. The reverend gentlemen themselves hire a company of players, and send their neophytes round with a subscription-paper for the pit and boxes. We regret to add that the purlieus of the theatres are let as gaming-houses, with considerable profit

to the managers. The art of puffing is well understood. One company is announced by its *locataire* as the "Happy," another as the "Blessed," another as the "Glorious Appearing," and the bills of performance are as gorgeous as our own in red, blue, and cabalistic decorations. But the theatres are extemporary sheds of wood, often capacious enough, however, to contain two thousand persons. The Chinese are a more enduring audience than even the Germans. The latter will sit seven or eight hours without manifesting any more impatience than a few whiffs of their meerschaums will allay; but a Chinese endures performances that extend through three entire days, requiring only an occasional interval for eating and sleeping. The Chinese stage is as good a school of archæology as the Princess's Theatre itself, since the dresses, which are costly and gorgeous, afford the best samples of the ancient national costume. The Cathaian Theatre, however, requires and would repay a separate notice, and we must now pass on to the out-door amusements of this singular people.

Strength rather than skill is displayed by the athletic, and they have few sports corresponding to the manly exercises of Europe. They hurl iron bars, and lift beams heavily weighted with stones, to prove their muscles. But such strenuous pastimes are not the most popular. Able-bodied gentlemen will spend half a day in kicking shuttlecocks with their heels, in flying kites, carrying birds on perches, rocking in boats, or simply sauntering hand-in-hand through their gardens. Gaming, however, is the "universal passion." A Chinese will stake his house, his family, his gown and petticoats, even his own personal freedom, everything except the graves of his fathers, on the hazard of the die. "Crabbed age and youth" are equally addicted to this vice. No place is sacred—no grade is free from it. The clergy gamble in the temple-porch; the soldiers gamble in their sentry-boxes; porters in the streets gamble for the chance of the next customer; and boys gamble for their cakes and toys with the shopman who vends them. Gaming-houses are, indeed, prohibited by the Government; but they afford the local authorities so fertile a source of revenue, that the prohibition is null, and justice is blind and enriched. These temples of fortune are often stained with violence and murder. Suicides are committed openly in them; and so cheap is life in this redundantly peopled empire, that nothing is more ordinary than for the corpse of a loser to lie unregarded amid an eager crowd of dicers and card-players. Even the ceremonies of this universally polite nation are laid aside in these receptacles of vice; and the gamesters of Nankin and Canton are as rude and reckless of good manners as if they carried bowie knives at their girdles, and did homage to Stars and Stripes instead of the Green Dragon.

In the foregoing sketches of China as it has been, or perhaps more properly, is—for a score of centuries has scarcely introduced a single change in the people and their habits—we have endeavoured to exhibit a few of the more striking features of a race which, apparently, has the power to exert more influence upon England than England has, at present, been able to exercise upon them. From a squabble in the port of Canton has proceeded a temporary suspension of the public business of Great Britain; from a positive or a technical infraction of a local law has issued a dispute that has already cost many lives, and laid in ashes a considerable portion of one of the most populous and busy cities of the East. Our empire is, indeed, so widely extended, that an event which occurs at the antipodes may vibrate even in the heart of Downing-street; and we may undergo one of *our* peaceful revolutions—a change of administration—because an Eastern pro-consul has obeyed or exceeded the orders of a despotic master. We do not apprehend any very serious disaster from collision with China: yet the arms of the undisciplined Germans more than once or twice caused every cheek in imperial Rome to turn pale, and the barbarians of Cabool have inflicted a temporary disgrace on the military reputation of England. It is well to count the cost of a contest with the Chinese. It is very likely that we may overturn a dynasty, or even break up the cohesion of one of the most ancient empires in the world. We may easily, with our might, our science, and our resources, inflict incalculable suffering upon myriads of men. We may also undergo considerable calamities ourselves in the assault of a kingdom so strongly entrenched by nature, and so fortified against invasion by the prejudices of its inhabitants. For these causes, we have seen with sincere regret the mere party aspect with which our present relations with China have been inverted, and the want of philosophic calmness which has marked every debate upon them.

In a few days the people of Britain will have determined by its suffrages whether, in its opinion, we have right on our side, or whether we have intentionally or inadvertently done wrong in committing ourselves to a war with the local authorities of Canton. The determination will probably be influenced more by the passions of the moment, and the representations of interested parties, than by any broad or comprehensive view of the question at issue. We have endeavoured to supply within our brief limits a few facts, independent of the immediate debate, which may serve to explain and illustrate the character of the people with whom we are now at variance. From these facts it will be seen that China stands in some degree apart from the ordinary type of Oriental man; that, from its ancient and subtilly-organized

civilization, it occupies a middle position between Europe and Asia. From the examination of its physical and political circumstances, it appears that, although vulnerable, it is not necessarily decrepit; and although oppressed by it, not generally disaffected towards its native government. The course of our conquests or our peaceful acquisitions in India will be no precedent here. In the Chinese, we have to deal with a nation crafty enough to meet on equal terms our ablest diplomatists; strong enough to offer an obstinate resistance; and sagacious enough, if once its sectarian prejudices can be overcome, to learn from its opponents how to fight or how to elude fighting. In our estimation, these are infinitely more important subjects for consideration than the dispute whether Sir John Bowring has or has not exceeded his commission; whether his law be bad, or his discretion be worse. And in this belief, accordingly, we venture to recommend to our law-makers and our readers the study of the Chinese people rather than of the Chinese question; for the latter is for the moment, while the former may involve us in responsibilities even more various and weighty than any we have incurred already by our gigantic acquisitions in Hindostan.

While drawing attention to these points, we have endeavoured also to keep in view the historical, no less than the commercial, aspect of China and the Chinese. It is erroneous to esteem this ancient and highly-civilized people merely as the potters and tea-dealers of the world. It is equally erroneous to derive our impressions of them from their few points of contact with our traffic and interests, where native and European vices encounter and exasperate one another, and to leave out of sight that infinitely larger portion of the country where the native laws and customs still retain much of their pristine integrity. The Chinese empire, indeed, is not so much contemporary with the Europe of the nineteenth century, as with the despotism of Justinian and the formal court of Alexius Comnenus. Between these and the institutions of China, if our space permitted of the comparison, a minute and instructive parallel might be drawn. Neither blue-books nor Sir John Bowring, however, will afford a just or probable picture of this great stationary empire. For such a portrait we must revert to the writings of much earlier observers, who beheld the "seat of Cathaian Khan" six centuries ago, and gauged, in a more comprehensive spirit than more recent travellers have done, the outer and inner life of China and the Chinese.

Contemporary Literature.

THEOLOGY AND PHILOSOPHY.

IN taking a survey of the moral or human universe, which developes itself in succession, we must depend on other than present observation—on records and on monuments; for monuments, however rude, admit of inferences being drawn from them respecting the characters of those who left them, and indirectly reveal the properties of man's Maker, Origin or Source. The earliest ages hand down to us in their relics, depositions, not copious, but unmistakeable and unimpeachable, because unpremeditated. They depose to us concerning the moral nature and characteristics of man in the remotest periods. Thus, if the vestiges of human habitations in the most uncivilized times are found in groups, we can infer the social disposition or instinct of those who used them: if we find remnants of weapons, we infer their warlike passions (θύμος); if we discover their ornaments, we know that they were no strangers to vanity and pride (ἐπιθυμία). We thus gain a starting-point from which to observe the movement of the human race: we find it to have been continually in advance. When we come to observe remains of pictured or hieroglyphical annals, the rudiments of the moral nature of men appear to us as more and more developed. We meet with evidence of national passions and prejudices, of noble and sustained courage, and also of flattery, exaggeration, and falsification; with numberless forms of action and passion. There emerges also proof of the recognition of a power or powers apparently external to man, of which such representations are given as accord with the experience of regions and of periods.

In its widest sense, the word history includes all that which stands to us instead of present observation, or it includes even present observation as a provisional terminus. In a more confined sense, it embraces only that portion of the account of the successive development of the race which is handed down to us in written records. This evidence, so coming to us indirectly, is very different from present observation, and requires the application of critical tests to enable us to arrive at its true contents. Especially is this the case when there are delivered to us in writing, not only accounts of divine manifestations in humanity, according to the laws of that humanity, but supposed immediate communications from the Divine Spirit, as conceived of in former ages,—accounts of divine causes. The Divine Spirit cannot, indeed, be absent from any part either of the material or moral universe, nor can it have been absent in any stage of their development; and therefore the term "God in History" is capable of two meanings, in great measure distinct from each other: for it may mean "the history of the divine manifestation in the moral human

subject;" or it may be confined to signify "the history of the moral conception or personal conception of Deity in the human race." In the former case, it will embrace the history even of those portions of the human family which have not developed the personal conception of the Supreme Being; in the latter, it will be confined to those only who have so done. Yet the unknown Source of all, the central spring of the moral Kosmos, must be the source alike of the pantheistic and anthropomorphic conceptions of Deity, and of all modifications which graduate between the two. Dr. Bunsen, however, limits himself, in the work of which the first part is now published,[1] to the history of that portion of mankind wherein at length the conception of a personal God has developed itself: in other words, to the history of the Semitic race, and of those branches of the Arian from which the European nations have been derived.

Civilization and Christianity are the product of these two streams combined. The culminating point of the philosophical energy, or rather its eminent personal expression, is found in Socrates. The culminating point of the far higher manifestation—namely, that of the moral idea—is acknowledged to be in Jesus of Nazareth. And thus all history centres in the scene upon Mount Calvary; for all previous history (with some limitations) leads up to it; and confessedly all subsequent history—of the civilized races—derives from it. To the Semitic race especially, according to Dr. Bunsen, is due the true conception of the Deity, not only as a conscious cause or person, but as of a character. Now, the Infinite can only manifest itself in the material universe by subjecting itself to conditions,—by self-limitation. And in moral being, existence supposes self-limitation, which, in the form of a human person, is self-restraint, or voluntary suffering.

After its preliminary matter, the object of the portion now issued of Dr. Bunsen's most significant publication is to illustrate from the history and scriptures of the Hebrews, the formation in that people of the conception of a personal moral Deity, and the manifestation, in certain eminent individuals of the Jewish nation, of that truly divine moral characteristic—self-limitation, or sacrifice for the sake of others. In tracing the rise of these moral ideas through the Jewish history from its earliest period to the Maccabean age, the learned author rests upon four principal or typical characters—Abraham, Moses, Elijah, and Jeremiah. Yet we must say that, with all his candour and research, he does not seem to us to have applied the same critical method to the ascertaining of the early Jewish history, which he has employed, with very striking results, to the illustration of the later period; for, in estimating the characters of Abraham, Moses, and Elijah, he admits, apparently without question, the authenticity in all thier details of the narratives which have been handed down of those persons; and accepts, with little or no analysis, the chronological series of history, in which they stand forth as prominent actors. With respect indeed to Genesis,

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[1] "Gott in der Geschichte oder der Fortschritt des Glaubens an eine sittliche Weltordnung." Von Christian Carl Josias Bunsen. In sechs Büchern. Erster Theil. Erster und Zweiter Büch. Leipzig. 1857.

he acknowledges the documentary or compilatory origin of that book, although the other four books of the Pentateuch he attributes to Moses. Even upon this showing there is no voucher, internal or external, for the details of the Abrahamic narrative—for the reference in the New Testament (John viii. 56) is too vague, too argumentative, too easily explained on the principle of accommodation, to justify the inference from it of the verity of a particular history in Genesis. Dr. Bunsen, indeed, thinks that Abraham was the first who rent himself from the propitiation of the kosmical powers by human sacrifices, and who rose to a just appreciation of the moral attributes of Jehovah. Yet it is difficult to elicit from the record, that Abraham had any feeling of the moral impossibility of propitiating the Divine Being by murderous rites. Even in the New Testament, the author of the Epistle to the Hebrews represents the difficulty which Abraham experienced, yet which his faith was strong enough to overcome, to have been that of the accomplishment of the promise of a seed if Isaac was slain: the far greater moral difficulty did not occur to him—much less to the author of the history in Genesis—How could God command to contradict his own law against the shedding of blood? The Abraham of Genesis, in this respect, shows less refinement of moral feeling, and even less worthy conceptions of the Deity, than Sabaco, King of Ethiopia. According to ancient story, he was bidden in a vision to secure his conquest of Egypt by the slaughter of the priesthood; but instead of obeying this suggestion, he took it as a warning; for he said that God must be displeased with him, and was tempting him to a wickedness, for which he would afterwards destroy him: and so, to avoid the crime and its necessary punishment, he withdrew from his conquests. In other respects, also, the writer in Genesis represents Abraham as a person of very dull moral perceptions; and if we do not therefore conclude, without doubt, that he was such, there is nothing to justify us in concluding the reverse. On so little ground, as it appears to us, does Dr. Bunsen lay down that, "Jesus of Nazareth excepted, no historical person has influenced the spiritual life of humanity more widely and deeply than Abraham, the Friend of God."—(p. 103.)

Undoubtedly a higher moral ideal is presented to us in many parts of the histories of Moses and of Elijah, manifested in their entire abnegation of self for the sake of their religion and their people. Yet the date of these histories is too little ascertained, either by external testimony or internal criticism, for us to be able to attribute, with any certainty, this or that advance to particular persons. There is evidently a mixture in the historical books of the Old Testament, as we now have them, of ideas which belong to periods different from those to which they are assigned. And, to a certain extent, the prophetical writings of the Old Testament stand in the same relation to its histories, as the Epistles of the New, to the Gospels and Acts. They are placed in order subsequent, but they are in fact the prior documents, and of a genuineness much better ascertained. Now, we must confess, that it is not sufficiently apparent through the histories, what some of the prophetic phenomena actually were, so as to enable the formation of a satisfactory prophetical theory,—we do not really know

what the effects were which we have to account for; and until we do so, it is premature to assume psychical conditions, such as those which are analogous to the mesmeric state, as their causes.

Undoubtedly the prophets bore a great part in the drama of Jewish history, and, with some exceptions, the prophetic action upon the national mind was directed to the formation of a refined moral sense, to bring about the recognition of a moral law and government in the universe. They worked against hierarchism and ceremonialism, and sometimes against monarchism, certainly against secularism. So far theirs was a moral office. The essential insight of the prophet was not into futurity, as future—not into the sequences of facts or of national fortunes, as such—but as following each other according to moral laws. Dr. Bunsen illustrates the mental state of a Hebrew seer by that of one under the influence of mesmeric sleep. The mind is active, irrespective of the conditions which attach to thought in our waking state. Time and place are no longer defined to him. But although he claims this faculty of "seeing" and of foretelling for the Hebrew prophets, he acknowledges that their highest inspiration consisted in their insight into the laws by which the moral universe is governed; and the faculty of foreseeing some event not in itself contradictory to the course of nature, but then and there out of the range of ordinary foresight, served, as he thinks, by way of a *sign*, to vindicate their mission, —became a voucher for their authoritative revelation of the divine government by moral laws.

In some portions of the work before us, such as that which we now have particularly in view, Dr. Bunsen has failed to employ the critical method which in other portions he has applied without reserve. In other words, he admits too hastily some facts according to the letter, although he subordinates them to the moral design.

There is essential to every prophecy a *datum* from which it starts, and an end to which it tends. Prophecy may be compared to a tragic drama, in which there must be exhibited a change from good fortune to bad, or *vice versâ*. The purpose of prophecy is evidently a moral one: to warn in prosperity, to comfort in adversity, to dissuade from the vices which are engendered by the one, and to encourage the hopes which sustain under the other. Hence prophecy has even a contingent character. If the moral antecedents be varied, while it is yet time, the moral issues will be varied. "At what instant I shall speak," &c. (Jer. xviii. 7—10), and, "If thou hadst known, even thou, at least in this thy day" (Luke xix. 42). This characteristic of the Hebrew prophecies has been lost sight of, by reason of their having been gathered together in books, dislocated often in their order, and subject to interpolations. Each prophecy should be considered apart by itself: it is then obvious that it can only embrace that simple transition of which we have spoken. Otherwise, its warnings would have been neutralized. If denunciation of judgment is proper to a state of sin, the force of it would be lost, were prosperity likewise beheld beyond it; if promise belongs to humility and penitence, its effect would cease to encourage, were lapse and suffering simultaneously present to the view. The fruit of apostasy is captivity, not restoration; bondage and exile

are supportable with the hope of return—insupportable when "abomination of desolation" is to close the scene.

Each prophecy, when thus properly defined and isolated, speaks for itself,—it is the enunciation of a moral law, applied to a particular case then before the eyes of the prophet and his contemporaries. And the necessity, or even appropriateness of such things as "signs," to conciliate attention to the prophetic warnings, altogether disappears. Dr. Bunsen would not apparently retain a "sign" or predigy like that of the retrogression of the shadow on the sun-dial of Ahaz. But even such a "sign" as that in Isaiah (ch. vii. ver. 14) cannot be admitted as a voucher for the verity of the prophecy which it appears to usher in. For, first, to the critic of the present day, no sign can be accepted as having been really given, if the narrative of its solution occurs in the very same book with the narrative of itself; nor any prophecy, in the ordinary sense of the word, be received as a supernatural prediction, unless it can be separated by sufficient external evidence from its accomplishment. Secondly, the prevision of such an event as the birth of a son, rather than of a daughter, to a particular female, if it be a knowledge possible under certain psychical conditions, is a knowledge in the department of physical being; it implies no higher insight than ordinary into the laws of moral sequences. A moral character cannot be inferred from an exaltation of the intellectual ability. Thirdly, the Jews themselves were warned, that the subject of a prophet'st eaching was to be the test of the reality of his mission, and not his sign or his wonder, even if it should come to pass—(Deut. xiii. 1—3).

Of the four typical or representative characters on which Dr. Bunsen has fixed the attention of the student of Jewish history, that of the prophet Jeremiah is brought forward in the most striking manner, as the Sufferer for his people's sake. That the genuine prophecies of Isaiah terminate at ch. xxxvii. of the book which goes by his name, is already acknowledged by many; and the illustrative historical chapters were added by some scribe from the Book of Kings. The rest of the book, Dr. Bunsen thinks, was composed, not by one hand, but by two,—by Jeremiah and by his disciple Baruch; and in particular, to Baruch is to be attributed the description of the Man of Sorrows (Is. lii. 13; liii.), which is so remarkably suitable to his own master. The circumstances of his life, persecuted for his people's sake, but seeing of the travail of his soul in their restoration; martyred, according to tradition, in the land of the unbelievers, yet after death, in popular estimation, an intercessor for his brethren (2 Macc. xv. 13, 14), point him out as the historical person from whom the features in that remarkable chapter are portrayed. The addition of prophecies without titles or descriptions to a book already closed, is not without its literary difficulty; but this difficulty is not so great as the internal one (touching the very essence of prophecy itself as a moral appeal to those to whom it is addressed), which would be involved in supposing Isaiah to have delivered such predictions as those concerning Cyrus and Babylon (chapters xliv., xlv., xlvi., xlvii.), without a *datum* to those who heard them.

The main interest of Dr. Bunsen's work centres in the portraiture

of the prophet Jeremiah, but it contains many other extremely valuable contributions to an intelligent reading of the Old Testament Scripture, ending with a skilful adjustment of the prophecies of Daniel to the Maccabean age. Few may agree with the accomplished author in all the details of his historical analysis. We may think that it has not always been conducted on an uniform plan, or that the facts elicited do not perfectly adjust themselves within the ideal outline at first sketched out. Yet, speaking for England, we hope much from this work, the product of the thought of a truly ripe man, known for his love of his kind, and for his love of truth. One like it proceeding from a divine of our own, or from a professor in an English university, would be greeted with a howl of sectarian indignation. Learning, and the graces of a private character, and the labours of a life, would, in such a case, go for nothing. But let us hope that Dr. Bunsen shall be esteemed English enough, to have credit given him for honesty of purpose, and foreign enough, for his conclusions to be examined according to their intrinsic merits, and not according to traditional opinions.

There cannot be a nobler undertaking than this, in which Dr. Bunsen has for many years been engaged—the endeavour to ascertain the laws, the co-existences, and sequences of the moral Kosmos. But has German philosophy supplied, or can any philosophy supply a sufficient method to this end? Only, it must be confessed, an approximative one. It is clear that an *à priori* method, or method of pure reason, or method of idea, is only applicable by way of hypothesis; we cannot prophesy the whole of the phenomena of the moral, any more than of the material universe. Likewise a method *à posteriori*, a method of experience, is insufficient, because isolated facts cannot receive their true expression, if the universe is unknown to which they are related. And even a combination of the two methods is still inadequate to a perfect knowledge—it limps, first upon one foot, then upon the other —first upon a provisional idea, then upon partial observation; yet it reaches to a progressive and approximative knowledge. Particularly, the evident insufficiency of the method of idea has recently thrown the balance of investigation in other departments of existence on the side of experience; and the same proceeding is necessary in investigating the moral Kosmos. The idea of the moral universe is to us hypothetical, to be verified and filled up in its features by observation. And our powers do not enable us to form even an hypothetical idea of the whole, only partial ideas ofsections. It should be observed, further, that in order to give due play to both methods of philosophy, and to their combination, it is necessary not to assume any definition of the source and origin, either of the material or moral universe—in other words, of "God;" only, no definition should be excluded. The eliciting of it must in part depend upon the result of observation. The source can only be described to us in terms of its manifestations, with which it must be potentially co-extensive. And if Dr. Bunsen had held his definition suspended, he would have felt it necessary to include in his undertaking the observation of the moral and religious growths of other stems of humanity besides the highly-favoured ones which he has selected. He would have avoided also the entangling of two

meanings which meet in his title. Under one of those meanings his work is certainly incomplete, for the effluence of the divine energy, as phenomenal in the whole moral nature of man, in all the phases of humanity, is "God in History."

That other human families besides the Western Arians and the Semites deserve to be observed, in order to a history of the moral and religious conceptions, is very evident from an elaborate and extremely able work by the Rev. Rowland Williams, on Christianity and Hinduism.[2] This book has grown out of a munificent donation for a prize of 500*l.*, to be given through the University of Cambridge, for the best refutation of Hinduism and comparative vindication of Christianity. Prizes offered for essays on the more trite theological subjects usually fail to elicit any original or striking thought. Competitors feel that they must confine themselves to the putting safe doctrines in an acceptable form. But in this case, the road to be traversed was not yet worn into grooves, and the subject to be treated of was undertaken by a person honest enough towards himself to think out his own work, and honest enough towards the world, notwithstanding some entanglements and drawbacks, to put forth the results at which he had arrived. It has not been uncommon for those who have set themselves in a serious and honest spirit to confute, systematically, views presumed to be erroneous, to end in converting themselves to the side of those whom they originally undertook to demolish,—at least, to discover a much stronger antagonist, in their man of straw, than they had supposed to be possible. It is, therefore, not surprising altogether, to find a person of Mr. Williams's sincerity acknowledge, that when he had formed to himself a fair representation of Hindu conceptions, as the natives may be supposed to view their own systems, the result is not so palpably absurd, nor so easily refutable, as might have been expected. And as he undoubtedly possesses the capacity for throwing himself dramatically (as he calls it) into the position of his opponent, he becomes aware, also, that the critical weapons which suffice to lay in ruins the structure of Vedic and Pauranic traditions may be turned, with some effect at least, against Biblical history.

Therefore the extreme interest of Mr. Williams's book does not consist in its being an armoury from which Christian missionaries may derive sensible methods and reasonable arguments with which to combat Hindu superstitions—although it deserves to be highly spoken of on that score; but it is an indication of what the real result must be, when the European and Indian intellects fairly grapple with one another on the subject of religion. The European mind is well educated, and moves freely, though somewhat cumbrously, according to the movements which it has been taught; but it must not underrate the natural suppleness and acuteness of the Hindu intellect. In another kind of conflict with other Orientals, the mace of Richard was found scarcely a match for the scimitar of Saladin.

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[2] "A Dialogue of the Knowledge of the Supreme Lord, in which are compared the Claims of Christianity and Hinduism, and various Questions of Indian Religion and Literature fairly discussed." Cambridge and London. 1856.

Of the going down of the Indian religions, from contact with the Christian races, there can indeed be no doubt; but they will not disappear without effects on those who overcome them. *Græcia capta ferum victorem cepit.* The great stream of civilized religion has been fed, not only from Jordan and Tiber, but from Nile and Euphrates; and hereafter the Indus shall mingle its waters with those of Father Thames. In this sense Mr. Williams's remarkable book seems wonderfully far-seeing and prophetic. Christianity cannot come out of the conflict with Indian Pantheism without losing some of the anthropomorphic trappings with which it has been invested. As it is not possible, within anything like our limits, to give a fair analysis of this elaborate dialogue—for, to the disadvantage and severe trial of the author, he was obliged to that form of composition by the founder of the prize,—we can only indicate one or two of the more salient points at which intelligent Hinduism will clash with Christianity, and necessitate the modification of its popular forms. Of course the real conflict of Christianity will not be with the external idolatrous material, as it appears to be, of the Indian religions, but with the speculative religion, or rather speculative theories, of the universe, which lie behind it. Thus the Saugata or Nepaulese Buddhist, after adducing objections against the Gospel, from the doctrine of a Fall of Man, of Derived Corruption, of an Appeasing Sacrifice, of Election and Predestination, of the Trinity, of the ambiguous meaning and possibly immoral tendency of the doctrine of "faith," of the exclusiveness of Christian promises, sum up in these words:—

"If Judaism, and in a less degree Christianity, seem to be narrow in their sympathies, or unfair in their way of regarding other modes of worship, still more, we think, both one and the other have too local and material a view of all that concerns mental things, and especially the Divine intelligence. You speak of God as of a king sitting upon a visible throne in the sky, with His eldest Son at His right hand, and one receiving petitions from the other. Then you make men, like mere animals, creeping upon this earth, at a great distance from God, and hardly daring to think any thought of immortality but what is written down for them in a book. If ever we are to see God, you think we must be transferred bodily through the air into this palace of the Great King, taking with us flesh and bones, and, I suppose, fleshly appetites. For though you speak of a 'spiritual body,' I cannot understand an union of contradictories; and a bodiless body, or a material spirit, has for me no meaning. Nor do I know what matter is except body. Thus you make Heaven a mere place, and our souls bodies, and the Infinite God a powerful man."—p. 428.

The Christian advocate justifies such imagery from the necessity of the case, maintaining that, although these things are spoken in parables, they are instructive and elevating; and goes somewhat too far in saying, that "no dangerous error can come from the most literal reading of the Bible; while the wise may, if they keep humility, be led on into higher views of things eternal" (p. 446). A learned native, a *Guru* named Sadánanda, is made to hold the balance at this point of the discussion, in such a way as the following:—

"Very much depends upon the aspect and limits with which the doctrines objected to are taught. If the Fall of Man is made to cloud over conscience, it must be evil; if it expresses intensity of remorse, it may be relatively true.

If the Atonement be made an external substitution, or a venal compensation, it is bad; but if it expresses the fixity of law, and teaches men through sympathy to consecrate themselves in self-dedication, it is very good. So, if by election is encouraged either pride, or a feeling of the Divine arbitrariness, it contradicts the conscience; but if we are thus taught only to ascribe whatever gift or capacity we have to the Divine goodness, it is then a wholesome lesson of humility. On the same principle, faith may either be a substitute of passionate egotism for moral sincerity, or it may be an earnest laying hold of things eternal, and an instrument of growth by trust in One who is able to deliver from evil to the uttermost."—p. 453.

We have spoken of the form of dialogue into which this essay has been thrown as a disadvantage to it; not, however, meaning that the author has found himself trammeled by it, in the literary execution of his work, which abounds throughout in passages of wonderful force and beauty: but the form of dialogue occasions, we had almost said enables, him at times to pass off from questions acutely raised, and from objections pushed fairly home, without any sufficient solution. And sometimes a victory appears to be left in the dialogue with an interlocutor who does not deserve it; as with the speaker Mountain, when he is allowed, without challenge, to substantiate the New Testament miracles, in the gross, in such words as these:—"Whatever is extraordinary in its facts, has the guarantee of no less extraordinary witness. Twelve men suffice the English law for any verdict; and twelve men have set to their seals, that they and many others saw wonders done by Jesus in the flesh, such as no man without God can do." (p. 410). Yet Mr. Williams has penetrated far too deeply into biblical investigations not to be well aware that, instead of the testimony of twelve eye-witnesses, we have not the ascertained evidence even of one: for the first synoptic is not traceable in its present state to the authorship of Matthew, nor is the fourth Gospel by any means ascertained to be John's. And those of the twelve who have left epistles, do not therein refer to the "wonders;" for the second of Peter, which speaks of the transfiguration, was always among the doubtful books. And thus there is sometimes in this treatise an apparent dislocation of an argument from its proper or most suitable place; and observations forcibly and not unfairly urged against Indian superstition, are not repeated, as they might be, *mutatis mutandis*, by the Indian as against the Christian. For instance, very pertinent in the mouth of one of the Hindu objectors to the Christian history, or parts of it, as delivered in the Gospels, would have been such remarks as those which are directed by Blancombe against the alleged miraculous history of Sákya:—

"Then we see that, not only as regards the miracles of Sákya, but all miracles asserted everywhere, there is need to cross-examine our witnesses sharply, and inquire not only into their sincerity, but into their opportunities of observation and their clearness of judgment. Perhaps, indeed, if we were discussing miracles which appealed to the whole world, we should desire them to have happened among a people of no credulous turn, but inquisitive, and apt to test occurrences by the strictest methods. . . . . Hence not only the country, but the genius of the people, and the period of its history, and the predisposition of mind on the part of the witnesses, should all be taken into account; and if the tradition of the miracles has been handed down for many generations, one

would ask many questions as to the books in which it is preserved, and the persons in whose custody the books have been, and the authors to whom they are ascribed, and, not least, as to the witnesses by whom that authorship is asserted, and the number of years which may have elapsed between that assertion and the lifetime of the supposed authors, or the probability of their overhearing it."—p. 31.

Obliged to stop here, we must express a hope that Mr. Williams will not be induced by any considerations to hide his light under a bushel, and as he has produced a work which will not soon be surpassed in learning, thought, and literary execution, that every means will be taken to give it fair publicity and circulation.

The work of Dr. Volkmar, of Zurich, on the "Religion of Jesus,"[3] illustrates very forcibly an observation made in this part of a previous number,—that the results arrived at by many of the opponents of Strauss would be as little acceptable in England as the theories and criticism of Strauss himself. The explosion of the mythical theory, or the proved inadequacy of an ideal Christ, will not suffice to reinstate the authority of the literal evangelical history. And Zurich, which expelled Strauss himself from its walls with a clamour worthy of an orthodox zeal, receives in attentive circles of educated persons of both sexes, lectures on the historical origin of Christianity, of which the very whisper within the walls of Exeter Hall would suffice to lay it in ruins. For the English Bible-worshipper is like the barbarian in Demosthenes, opposed to the trained soldier; his hand stolidly follows each stroke as he receives it, instead of parrying the thrust before it is delivered. The work, however, of Dr. Volkmar is, in its own view and in relation to others' criticisms, reconstructive; the object of it is to settle Christianity on an historical basis which cannot be shaken. The necessity of some concrete belief, and the instinct towards Christian as sociation,—in other words, the strong demands of the Church principle,—require the firm placing of the personal history of the Founder. As an exemplification of the manner in which Dr. Volkmar undertakes this kind of historical construction, may be taken his reconstitution of the facts of the death, resurrection, and ascension of the Saviour. When the Christian documents are looked at in their proper order, it is seen that the rock-entombment and the fleshly resuscitation are additions to the original and simple facts on which the first followers fastened their remembrance, and on which they built their faith in their Master, the first-begotten of the dead (Rev. i.)—the risen one—the ascended. For, at first, the Resurrection and Ascension were not separated. They are not distinguished in the Epistles to the Thessalonians, nor in the Apocalypse. And of the Gospels, none of which were composed earlier than half a century after the event of the crucifixion, if they are taken in their probable order, each shows the growth of legend in the addition of some particular of respect in the treatment of the Saviour's body. According to Mark, it is laid in a tomb hewn in a rock; according to Luke, wherein never yet had any one been laid; according to

[3] "Die Religion Jesu und ihre erste Entwickelung nach dem gegenwärtigen Stande der Wissenschaft." Von Dr. Gustav Volkmar. Leipzig. 1857.

Matthew, the tomb was secured by a seal and a guard; and according to John, the corpse was not only wrapped in a linen cloth, but treated with spices, "as the manner of the Jews is to bury." So in respect to the continuance in the sepulchre during three days, there is in Matthew an addition made to what is said in Luke of the sign of the prophet Jonas. For in this Gospel, no sign should be given to a wicked generation but the sign of the prophet's preaching to the Ninevites; in Matthew's, a parallel is drawn between Jonah in the belly of the monster, and the Son of Man in the heart of the earth—a material and earthly sign, when the subject matter is moral and spiritual. Bunsen has well examined this "sign of the prophet Jonah," in his work above noticed. It has often been observed, that in the enumeration of Christophanies (1 Cor. xv.), Paul makes no distinction between the appearance to himself and those to the other witnesses there enumerated; there is with him no trace of the forty-days period, nor of a body *ψηλαφώμενον*, as neither is there in the Gospel of Mark, and the word *ἐτάφη* (ver. 4) implies no more than the performance of the last offices to the dead, in whatever way that might be, however dishonoured the corpse, as were those of malefactors. So Jeremiah xxii. 19, of the outcast body of Jehoiachim, *ταφὴν ὄνου ταφήσεται συμψησθεὶς ῥιφήσεται ἐπέκεινα τῆς πύλης Ἰερουσαλήμ.*

According to such a criticism, the belief of the earliest Christians was something like this: that their Master, who had suffered death as a malefactor, and whose body was subjected after death to the treatment given to those of malefactors, had nevertheless a glorified existence, and had manifested himself in visions, or otherwise revealed his presence to many of his followers.

Dr. Volkmar's work may be very well read as a sequel to that of Dr. Schwarz, though it is not so pleasant to peruse. Schwarz traces the process of the ruining of the old beliefs; and Volkmar shows, that if a reconstruction be possible, it can be neither in the way of Church authority, nor on the supposition of a literal inspiration in the New Testament record.

An instance of the manner in which additions to or variations of a legend may take place, is to be met with in the different accounts given of some particulars in the martyrdom of Ignatius. In the narratives hitherto known, he is described as having been summoned before Trajan, or as having presented himself before him at Antioch, in the tenth year of his reign, A.D. 107, when he was preparing his expedition against the Parthians; to have been interrogated before him and the Senate, in that city; to have been sent thence in custody to Rome, and there to have been delivered to the wild beasts. This account involves an anachronism, for the Parthian expedition did not take place till A.D. 115. However, the martyr had made special prayer to Heaven, that he might be entirely devoured, lest the faithful should be troubled in the gathering of his relics; and the beasts are described accordingly as having consumed him utterly, or with the exception only of the harder portions of his bones, which were collected, enveloped in linen, and conveyed to Antioch—for God was willing, says one of the accounts, "rather to listen to the prayer of his servant than to

display his own power by restraining the violence of the lions." But in a history of the martyrdom, now published for the first time by Dressel, Ignatius is said to have been sent from Antioch to Rome in the fifth year of Trajan; to have been examined by him, and tortured in the presence of the Senate; and finally to have been delivered to the beasts in the amphitheatre before the Emperor. But the lions having fallen upon him, strangled him only, and without devouring or tearing his body, "that it might be left as a protecting relic in the city already consecrated by the martyrdoms of Peter and Paul." To say nothing of the chronological difference, as to which the now published martyrdom may suggest the truer date, it is evident that the variations as to some particulars in these primitive documents have been derived from the different purposes of the several narrators,—have been intended to illustrate their different conceits, though these were equally frigid. The edition of the Patres Apostolici,[4] to which reference has now been made, contains the Epistle of the pseudo-Barnabas; the Epistle of Clement, with the second so-called; the seven Ignatian Epistles in the shorter form; thirteen Epistles as interpolated, or spurious; three martyrdoms of Ignatius, of which one is now printed for the first time; two Latin versions of Hermas, one as yet unedited; together with the Greek Hermas, edited by Tischendorf from the transcript of Simonides. The genuineness of this Greek text, notwithstanding the suspicion which must attach to it, considering the hands through which it has passed, is very much confirmed by its remarkable agreement with the Latin Hermas now first printed from the Vatican manuscript. Tischendorf contributes an account and vindication of it to the Prolegomena, not of course omitting to glorify himself for having unmasked the forgeries of this Simonides, which, it may be observed, however successful in Germany for a time, had met with no credit or encouragement in England.

It must be confessed that Ewald's illustration of the Pauline Epistles[5] is disappointing. Certain of the epistles attributed to Paul are admitted as genuine: the second and first to Thessalonians, that to the Galatians, the first and second to the Corinthians, the epistle to the Romans, to the Philippians, to Philemon, to the Colossians. The exclusion of the Ephesians and of the ecclesiastical epistles may be startling to some, and not satisfactory to any that the reasons, on the one side for that exclusion, or on the other for the retaining those which are admitted as genuine, are not sufficiently submitted to the reader. In the preface it is observed with justice, that the grouping of the books of the New Testament is remarkably distinguished from that of the Old Testament books. The Hebrew

[4] "Patrum Apostolicorum Opera. Textum ad fidem codicum et Græcorum et Latinorum, ineditorum copia insignium, adhibitis præstantissimis editionibus, recensuit atque emendavit, notis illustravit versione latina passim correcta, prolegomenis, indicibus instruxit Albertus Rud. Max. Dressel. Accedit Hermæ Pastor ex Fragmentis Græcis Lipsiensibus, instituta quæstione de vero ejus textus fonte, auctore Constantino Tischendorf." Lipsiæ. 1857.

[5] "Die Sendschreiben des Apostels Paulus übersetzt und erklärt von Heinrich Ewald." Göttingen. 1857.

literature, upon any theory, is spread over several hundred years; and the several books lend comparatively little illustration to each other. On the other hand, the canonical books of the New Testament, although by different authors, are the product of one spiritual gush. They fall into two principal groups—the Pauline and the Johannean: and, in particular, the Epistles of Paul are so varied in their business-occasions, are spread over such a large portion of his life, and present the mind of the Apostle on so many sides, that they are the most important of all these early Christian records. But when we turn from Ewald's prefatory matter, in which we meet with observations like these, to the special illustrations of the several epistles themselves, we do not find that they are pushed to any special result. There is no attempt made to pass with any surety of inference from the subjective condition of the Apostle's mind, as it is evidenced with more or less clearness, to the causes which produced it, or which may have been sufficient to produce it. There are things which no man hath seen or can see, which yet he may infer; there are other things which men might see, but whether they did see, or what they did see, is likewise matter of inference, rather than, as it appears, of direct evidence. In respect of these things, there is little or no attempt in the present work so to analyse the thought of the Apostle as an effect, as to lead to any conclusions respecting that which generated it; there is no endeavour to pass from his inward condition, considered as a sequence, either to divine realities or to historical facts, for its antecedents. Thus, we have no critical inquiry as to the facts implied (Gal. i. 12—16) in connexion with the so-called conversion, nor into the nature of the resurrection (1 Thess. iv. 13—17, and 1 Cor. xv. 42—54), nor concerning the source of the Apostle's "revelations" (2 Cor. xii. 1—4), nor on the spiritual gifts in the Corinthian Church. Therefore, as the present performance is not carried beyond a mapping out of the literary superficies of the Pauline writings, we will expect from the distinguished author a subsequent work which shall go deeper.

Richly deserved is the castigation administered by Dr. Donaldson, in his "Christian Orthodoxy,"[6] to a very offensive religious periodical; and it is to be wished that the sixth Appendix to this present work (pp. 323—444) should be read by more of the supporters of that print than are likely to meet with it. But after all, this is but rude handiwork and unworthy occupation for a scholar who can give us such illustrations of Biblical phraseology as we find (pp. 291—293) upon *πρὸς κέντρα λακτίζειν* and *θεομαχεῖν*, or such an essay as that on Biblical Demonology (ch. iv.), and particularly the Appendix to it, "on a recent attempt (by the Rev. Dr. Vaughan of Harrow) to establish the personality of abstract evil;" or such a searching review as that of Mr. Lee's discourses "On the Inspiration of the Holy Scriptures." And if there is too much *animus* shown even in the castigation and

[6] "Christian Orthodoxy reconciled with the Conclusions of Modern Biblical Learning; a Theological Essay, with Critical and Controversial Supplements." By John William Donaldson, D.D., late Fellow of Trinity College, Cambridge. London: Williams and Norgate. 1857.

exposure of a print and a party which continually offend against charity and good taste, still more is to be regretted the tone which Dr. Donaldson assumes at times towards individual opponents. However feeble the performance to which he is replying at pp. 259, 260, there are expressions to be met with there, and in some other places in the volume, which are not usual in the controversies of our own day. It is a duty to say thus much, because we feel that it especially becomes those who range themselves on the side of a free theology, not to throw discredit on the cause to which they join themselves, by the manner in which they undertake to fight its battles. For the rest, we maintain, as stoutly as Dr. Donaldson, the right of applying the modern critical apparatus to the elucidation of the Biblical writings, in the same way as they must be applied to profane authors. And with respect to the Pentateuch in particular, in common with many others, admit, as he does, that there is sufficient indication of its being, in its present form, a compilation, and of comparatively recent date,—much more recent, as it seems to us, in many parts, than the Solomonic age. But as to Dr. Donaldson's reconstruction of Jashar, our opinion forms no exception to the universal verdict, as we believe, of English and continental scholars, that he has entirely failed in making out his case. No doubt he will think that the universal European verdict against him is the fault of European scholarship. But in the meantime, as it seems, there is nothing to be done for it, but that Dr. Donaldson, like other men who think themselves wiser than their generation, and whose generation is unfortunate enough to suffer them to stand alone in that opinion, should crown his wisdom with the grace of allowing his cause to stand over for the verdict of posterity. Besides the blemishes of tone and temper already noted, the recurrence to the Jasharean controversy itself detracts very much from the excellence of the present volume, and must impair its general acceptableness and use.

It is somewhat encouraging that Mr. Macnaught's work on Inspiration[7] should already have reached a second edition, and it is now published in a form which will render it accessible to the mass of readers. It is in every way adapted for popular perusal. The difficulty is, in this country, to bring together those who, by acquirement and position, are fitted to be the instructors and leaders of the people, and those of the people who would willingly learn. If the ministerial class continues isolated from the laity, the worst social and religious effects must follow. Mr. Macnaught has done his part towards breaking down the barrier of separation. But the *rapprochement* between those who would speak and those who would listen has many obstacles. In the Established Church ministers are afraid, not of ecclesiastical censures or articles in the abstract, but lest their own congregations should rise in clamour against them, and so an immediate moral influence for good be destroyed for an indirect and distant prospect of enlightenment.

[7] "The Doctrine of Inspiration: being an Inquiry concerning the Infallibility, Inspiration, and Authority of Holy Writ." By the Rev. John Macnaught, M.A., Oxon., Incumbent of St. Chrysostom's Church, Everton, Liverpool. Second Edition, revised and corrected. London: Longman. 1857.

In the non-established communions, the bondage of ministers to trustees, elders, and seat-holders is even more strict. In all cases a like anomaly is presented. Endowments are devoted and funds subscribed and set apart in order that ministers should be highly educated, raised intellectually, by means of special studies, above the average of their hearers. But when they begin to speak what they think, out of the fulness of their hearts and heads, they are bidden to confine themselves to the phraseology of the sixteenth or seventeenth centuries. The "Rivulet Controversy," and the treatment which Dr. Davidson has received in some quarters, are an exemplification of the little real liberty allowed in communions which ought to exhibit a different picture. Mr. Macnaught, we are glad to believe, has received a generous moral support in his own locality, enabling him to maintain his position with success in the midst of a strong Bibliolatrous influence. And we heartily wish an extended circulation to his work.

The essay of Miss Hennell, on "Christianity and Infidelity,"[8] is a prize composition, and takes its peculiar shape under the conditions which were assigned to the competitors. The object of the donor was to obtain the statement of arguments on both sides, derived from the best authors, and so arranged on opposite pages as to afford a conspectus of this controversy easily to be taken in. The authoress has executed her task with perfect fairness and impartiality, applying and condensing the antagonist pleas with great tact and skill. Nevertheless, the scheme of the work, as laid down, has been a serious disadvantage to her; and, judging from the more original portions, we should have much preferred a perfectly original essay of her own on the same subject, or some portion of it, in which she would have followed altogether her own design and her own taste. The principle of the epitome, as it appears to have been laid down, was to adhere strictly to the idea of Revelation as a *miraculous* dispensation. Hence the circle of the discussion was much narrowed. But even within these limits it was difficult and not always possible to discover answers and objections which could be made to fit into one another. The standard authors on the two sides seldom pursue parallel trains of thought.

Mr. Kingsley says very well in his Preface to Miss Winckworth's translation of Tauler's Sermons:[9]—

"Standing upon the accumulated labours of ages, we are apt to be ungrateful to those who built up with weary labour, and often working through dark and dreary nights, the platform which now supports us. We complain impatiently of the blindness of many a man, without whom we should not have seen; and

[8] "Christianity and Infidelity: an Exposition of the Arguments on both Sides. Arranged according to a Plan proposed by George Baillie, Esq." By S. S. Hennell.

[9] "The History and Life of the Reverend Dr. John Tauler, of Strasbourg, with Twenty-Five of his Sermons (temp. 1340). Translated from the German, with Additional Notices of Tauler's Life and Times." By Susanna Winckworth, Translator of "Theologia Germanica;" and a Preface by the Rev. Charles Kingsley, Rector of Eversley and Canon of Middleham. London: Smith, Elder, and Co. 1857.

of the incompleteness of many a man's doctrine, who was only incomplete because he was still engaged in searching for some truth, which, when found, he handed on, as a precious heirloom to us who know him not."—p. xxxiii.

Tauler is certainly not complete, but he is very great,—great for his age and circumstances, especially great in his mysticism, for his mysticism did not isolate him. The terrors of a world filled with sensuality and violence threw many a Pagan, in the first centuries, to embrace the promises of the Gospel in a mystic spirit. And the more appalling terrors of a Church filled with corruption and sin drove the medieval mystic, when the temple had become a den of thieves, and the sanctuary was profaned, to take hold of the very horns of the altar, and to seek refuge within the Veil itself. The medieval Church prepared the way for the insurrection against it; it drove men out of all satisfaction in considering themselves members of a polity; it forced up the growth of a personal religious consciousness, and of a persuasion of the possibility of being one with God immediately, when it was not possible so to be, mediately through the ecclesiastical organization. "In the chamber of the heart," said Tauler, "God works through means in the one class of men, and without means in the other and more blessed sort." Nor even do intercessions of saints and angels, or the contemplation of the sorrows of Christ himself, serve to bring about that divinest union, for the saints about the throne are so absorbed in the beatific vision, that they cannot hear a distant feeble cry—and it suffices to throw the self by an act of full devotion at the feet of God himself to become one with Him. And even in this world, they who drink in of the fountain of God's Spirit, see all sublunary things as He sees them; while their work is, to nail to the cross of their humanity all unrighteousness of themselves and others. The present volume contains an interesting account of a remarkable man, and of some of his associates, with a selection from his discourses. It is principally intended for practical purposes.

An exceedingly valuable contribution to the study of the Platonic writings is before us, in the Treatise of Dr. Munk.[10] A large portion of his conclusions, we are persuaded, will remain. The work is well defined in its conception, orderly and precise in its treatment, clear and intelligible in its language, and purposely adapted for the perusal of others besides the profoundly learned. Plato is said by Dionysius to have continued to embellish his dialogues, "combing and curling them," up to the age of eighty years. From this fact is easily inferred, that the ascertaining of the chronological order in which they were originally composed is comparatively unimportant. But from another fact, that the Lysis, second Hippias and first Alcibiades, were the works of his youth, and together with the "Laws," were suffered to remain in an undeveloped state, is clear, that with respect to the Dialogues generally, which were continually submitted to the file, the author must have had a plan. It is evident, also, that the Socratic dialogues are not merely a whole as an involuntary representation of Plato's mind,

[10] "Die natürliche Ordnung der platonischen Schriften dargestellt von Dr. Eduard Munk. Berlin. 1857.

but they are a whole as intended by him, and directed to an end. The literary life of Plato began before the death of Socrates, and lasted more than fifty years. The relation of Socrates himself to the dialogues therefore enters into the question of their real purport. Yet it is certain, that we have not preserved to us the historical Socrates, nor one in keeping with him, for his method was dialectic and not rhetorical; yet, as in the Phædrus, most artistic and artificial discourses are put into his mouth. Schleiermacher saw in the dialogues an artificially constructed delivery of a complete scheme: Ast, the development of Plato's own mind. Socher sought especially a chronological order, and took the composition of the Apology, Crito and Phædo as his pivot, which dialogues he presumed to have been composed shortly after the death of Socrates. Hermann acknowledges that external evidence of composition, if it could be had, would be a more reliable ground for judging of the philosophical contents of the several writings than *vice versâ;* nevertheless, in the absence of chronological *data*, traces of literary graduation may serve to the same purpose. With this view Steinhart agrees. It is the object of Dr. Munk to show the Socratic system of dialogues as a poetico-philosophical construction; as a philosopher, Plato's purpose is, to exhibit his ideas in the person of Socrates; and as a poet, to arrange the stages of growth of that idea in a natural order; so that it cannot, for instance, be supposed we are to look for the less perfect exposition of doctrine in the old age of Socrates—in the Phædo; and a more perfect in his youth or manhood—as in the Polity. And this poetico-philosophical order is found also to coincide with the outlines of the life of Socrates, and the chronological *data* supplied from the dialogues themselves. Dr. Munk accordingly throws the Socratic dialogues into three groups. The first includes the Parmenides, as introductory, with the Protagoras, Charmides and Laches, Gorgias, Ion, Hippias I., Kratylus Euthydemus, Symposium. The second introduced by the Phædrus, contains also the Philebus, Polity, Timæus, and Kritias. The third, the Meno, Theætetus, Sophistes, Politicus, Euthyphro, Apology, Crito, Phædo.

Ast had committed terrible havoc with the dialogues, and it is comforting to have a good defence made for old friends. We cannot, indeed, believe that we possess Socrates, or much of him, as he was; but it is consoling to think, that at any rate we do not lose Plato. We are glad to retain the Apology and the Crito, which some would reject because they do not deliver the doctrine of Ideas; but according to Dr. Munk they exemplify the application of the doctrine on its moral side. The question as to what virtue is, had been raised in the Protagoras; the difference between the true and the false, the genuine and the counterfeit,—in other words, the theory of virtue had been developed in the following dialogues. The representation or practical application of the theory is to be found in the Apology, the Crito, and the Phædo. Undoubtedly the Apology is no actual defence of Socrates, nor one prepared for him, nor even the immediate product of the impression made on his admirers by the circumstances of his defence and condemnation. It has no rhetorical purpose or character whatsoever. Its real tendency is to be found in the relation which it bears to the rest of the Socratic *cyclus;*

its structure is thus poetico-philosophical, and it has both an æsthetic and psychological aspect.

It would have been possible for Plato to deliver to us the actual defence of Socrates; but he has certainly not done so, because such a defence would not have cohered, either artistically or philosophically, with Socrates as he presents him to us. If we may believe Xenophon, Socrates rested his defence against the charge of atheism upon his habitual participation in all the public acts of the popular religion, and professed his agreement with it. He could not say the same in Plato's Apology; for already, in the Euthyphro, Socrates had shown that true piety does not shew itself in these things. Therefore, here also he maintains the true worship of the Divinity to consist in a devotion of man to all good, and a forsaking of all selfishness. There is in the Apology no express reference to the doctrine of Ideas, which would have been artistically incongruous. Socrates could not entertain the judges with a philosophical exposition. In the Crito, likewise, we meet with an exemplification of ethical doctrine, such as is to be found theoretically drawn out in the Gorgias; an abandonment of self, a resisting of all temptation to do evil that good may come. Both these compositions belong to the advanced age of Plato himself, when he was looking back upon the cause and conduct of his master, and beholding his character dimly magnified through the mist of years. Or there may be an embodying, in the person of Socrates, of his own feelings as he approaches the term of his labours: in the Apology, it may be his own prophecy which he puts in the mouth of his predecessor, that another generation shall judge him better than the present; and in the Crito, his own conviction to which he is giving utterance, that the testimony of a truth-witness is only valid, when the seal of his death has been added to it. Also in the Phædo, it is true, we have not the doctrine of Ideas so developed as elsewhere, but there is a practical application of it. It is applied to the physical constitution of things in the Timæus, and to the moral universe in the Polity; in the Phædo it becomes to the individual, a link between this life and another, between the mortal and the immortal, the seen and the unseen; it supplies a stay to one about to make the transition, so terrible to the superstitious and the wicked, so hopeful to the religious and the philosophical. Yet in the Phædo are gathered up the threads which have run separately through the other dialogues of the Cyclus. Here is the culminating point of the whole:—

"In defining the place which a dialogue occupies in the Platonic series, the question does not turn upon such particulars as these,—whether the doctrine of Ideas occurs therein as more or less developed, or whether this or that literary style predominates, or whether reference is made to such or such other systems of philosophy. Really decisive is the elevation at which Socrates is seen in his ethical development. And the Socrates of the Phædo appears in the highest stage of moral greatness, to which he can only have risen by degrees. The life of the wise is withal the teaching of his wisdom, and his death is a security and warrant of future immortality and happiness for all who follow out his life and doctrine. The Platonic doctrine has been regarded as the precursor of the Christian; and it is so likewise in the manner of its revelation. The Socratic Cyclus is its Gospel—the history of the life and teaching of true wisdom in humanity—of the most perfect, most intelligent, and most righteous man."—p. 507.

POLITICS AND EDUCATION.

MISS Martineau's unfailing activity supplies us once more with a treatise which we may notice at the opening of this section.[1] It is a statement of the case urged by the manufacturers of Manchester against the shipping-dues levied by the Corporation of Liverpool. It is, of course, almost entirely a compilation; for abundant materials exist in the Blue Books issued on the subject, which only need condensation and arrangement to furnish all the *data* that can be requisite for deciding the question at issue. The Commissioners of 1853 gave a very valuable preparatory assistance by clearly dividing the shipping-dues existing in different ports into four different classes. One kind of shipping-dues may be regarded as indefensible in principle—the dues, namely, that are levied at four ports—Dover, Ramsgate, Whitby, and Bridlington—on ships that pass the harbour without receiving any benefit whatever. We may also pronounce dues levied to maintain public charities as almost equally unjust, as there can be very few cases in which the tollpayer is benefited by the charity. Another case is that of a toll fairly levied by public authority as an equivalent for services rendered to the persons paying it—as where light-houses or breakwaters are maintained with the money. Then, again, we have charges levied by private individuals, whether on public or private harbours, which are to be protected like all other private property. There remain dues levied by town authorities, and applicable to town purposes. "There must be," Miss Martineau truly says, "some strong justification, legal or special, to enable claims of this sort to stand ground; as there can be no natural right in any town, or its authorities, to tax the commerce of the kingdom for the benefit of the ratepayers of the borough which happens to stand near a harbour." The questions to be decided with regard to Liverpool are two—first, whether the shipping-dues exacted there are a charge made by town authorities, and applicable to town purposes; and, secondly, whether they can be defended on any special justification. On the latter head Miss Martineau is triumphant. Out of an income of 115,000*l.* only 5000*l.* is spent for the benefit of the shipping; the surplus is devoted to purposes which would ordinarily be provided for by a borough-rate. How, then, is the levying of this surplus to be defended? Why should manufacturers at Manchester relieve the merchants of Liverpool from paying for the Liverpool Borough Gaol and police force? Supposing the claim of the town rested on long corporate tradition, this item of corporate property would, as Miss Martineau justly argues, be liable to be dealt with, or, in plainer terms, taken away and confiscated by the State, whenever a sufficient case for interference might be made out. If revenues were originally assigned to corporations for the purpose of effectually performing certain corporate duties, the State is at liberty from time to time to examine whether the delegated liberty of taxing the subject has in any par-

[1] "Corporate Tradition and National Rights.—Local Dues on Shipping." By Harriet Martineau. London: Routledge.

ticular case been wisely conceded, or can properly be continued. But is this the case at Liverpool? and the doubt brings us to our first question—How did this tax originate? We must distinguish between corporate property granted in return for the discharge of certain duties, and corporate property purchased at a particular time by the corporation from an individual. Such property as the latter is clothed with no heavier trusts than was the purchase-money. We wish Miss Martineau had more definitely asked herself whether, if Lord Sefton still, like his ancestors, owned the privilege of levying these dues, the State could justly take this privilege from him? Her whole line of argument makes us feel sure she would reply that it could not. If this is so, let us suppose the privilege had continued in the Molyneux family down to 1850, and the corporation had then purchased it with borough money, could not the corporation now apply the dues to borough purposes? If they could, we do not understand what is the difference between buying in 1850 or in 1670. The whole difference is that between a bad and a good bargain. Miss Martineau hints, indeed, that the town somehow or other claimed to levy these tolls as a corporate privilege belonging to the town, even before Lord Molyneux had sold his right. We wish this point had been made clear. It is the very link in the chain of argument that is the most important. If it can be shown that Lord Molyneux only accepted a sum of money to forego a contested claim, the question will be very much simplified. We hope that future research may make this probable, as undoubtedly these tolls are a very great nuisance.

Mr. Jonathan Duncan has published a volume on the Currency,[2] which appears to us to advocate almost every fallacy that can be collected together on the subject of money. His fallacies range from such definitions of value and price as that the former "expresses labour condensed or embodied in commodities," and that the latter "denotes taxation and value combined," up to proposals for a national currency, as distinguished from the currrency which we should offer to foreigners. Mr. Duncan is one of those financiers who believe that, by a little ingenuity in the issue of paper money, we might escape all the effects of our heavy taxation. He also thinks that, "as an instrument of commerce, legal tender ought to expand or be contracted with the exigences of trade;" and that "usury is not paid for the legitimate use of money, but is an extortion levied on account of its artificial scarcity." We do not see what use this volume can be, except as an exercise book for beginners in political economy to practice their powers of detecting obvious mistakes. For this purpose the volume offers a comprehensive compendium.

Mr. Dover Statter is the most enthusiastic decimalist we have ever heard of.[3] He is not satisfied with money, weights, measures, &c., but he goes in for decimal time, and has constructed a decimal clock, of which a lithograph is to be seen at the beginning of the volume.

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[2] "The Bank Charter Act." By Jonathan Duncan. London: Oakey. 1857.

[3] "The Decimal System as a whole." By Dover Statter. London: Groombridge. 1856.

It is all very ingenious. The day is to begin when the sun is at Nadir, and the whole day contains ten hours. Of the clock we hear that it is constructed on the most approved principles of the best clocks, and beats dead decimal seconds; of the scheme we hear that under its guidance artisans would gain six minutes more time to their breakfast and twelve minutes more to their dinner than they have at present. If the clock and the scheme do not, with these attractions, captivate our readers, they must study Mr. Statter's pamphlet for themselves; it offers many encouragements of a similar kind.

We have received the third volume of M. Neumann's collection of treaties and conventions concluded between Austria and Foreign Powers, from 1673 to the present time.[4] The new volume comprises those included between the years 1815 and 1821, inclusive. The change of maritime into national law, advocated by the Secretary of the United States last year, has found two supporters recently in Dr. Asher and Mr. Bernard. The work of the former[5] is a memoir addressed to Governments and to scientific men, on the occasion of a meeting held by the Academy of the Moral and Political Sciences at Paris. It does, however, but state feebly what Mr. Bernard states forcibly and well,[6] viz., the advantages which all nations might derive from an understanding that private property should be unmolested in time of war, at sea as well as by land. It is practically a question for England to settle; and it can be settled only by a calculation of the gain and loss we should derive from it. Perhaps we can only test the balance of advantage by thinking how this doctrine would profit us if a war should unhappily break out between this country and America. We should certainly lose the advantage which, in the opening of the war, our naval superiority could not fail to give us; we should inflict more injury than we sustained. But, on the other hand, our commerce would be absolutely safe; and, what is of still more importance, we should still receive our supply of cotton. We must, however, own that it is our power of destroying the commerce of countries with smaller navies that makes England feared; and it is a great question whether we can afford to throw away our greatest means of inspiring terror. Mr. Bernard, indeed, replies to this, that we should rather gain than lose by the change, even if we regard the matter by the test of our maritime supremacy which enables us to capture ships of the enemy. For of course, the rule would remain, that ships bound for a port blockaded are liable to seizure; and we could blockade all the American ports, whereas, the Americans could blockade none of ours; so our merchant ships would be safe from their privateers, and their merchant ships

[4] "Recueil des Traités et Conventions conclus par l'Autriche avec les Puissances Etrangères, depuis 1763 jusqu'à nos jours." Par Léopold Neumann. Tome troisième. Leipsig: Brockhaus. 1857.

[5] "Essai concernant les Principes à poser pour le Droit Maritime International de l'Avenir." Par C. M. Asher, Docteur en Droit. Hambourg: Notte und Köhler. 1856.

[6] "Remarks on the proposed Change in Naval Warfare." By Mr. Bernard, B.A., and Barrister-at-Law. London: J. W. Parker & Son. 1857.

would be at the mercy of our men-of-war. We apprehend that this is better logic on paper than in fact. The Americans would hardly fall into the arrangement.

Mr. Field has published a pamphlet on the "Autocracy of the Bar,"[7] with the drift of which we cordially agree. He advocates the abolition of the distinction which separates the two branches of the legal profession. There is no real reason why the barrister and the solicitor should be so widely parted in England any more than in America or the British Colonies, except that the aristocracy wish to retain as many professions as possible open to them, and the higher standing of the bar attracts them to its ranks. Mr. Field gives excellent reasons why the interests of the public should not be sacrificed to the convenience of the higher classes. In the first place, the expense of legal proceedings is much increased by the necessity of employing counsel. In the next place, legal tariffs are fixed by barristers, and they are fixed so as often to bear very hardly on solicitors. We feel sure that this subject will soon attract the attention it deserves. The change would, we think, benefit the barrister even more than the solicitor, as it would do away with two of the great drawbacks of the bar, the intrigues of unscrupulous members of the higher branch of the profession to conciliate the favour of the lower, and the waste of time and ability that hangs over the early career of so many of the more scrupulous.

Public attention has recently been so much directed to the prevention of crime and the treatment of criminals, that we might expect the press to issue an abundance of pamphlets upon topics so popular. We have, in particular, two to notice. One by Mr. Ellis[8] is an average specimen of the writings which are showered in such profusion from the pens of well-meaning men. "Let us," says Mr. Ellis, "give everybody a first-rate education, carefully instilling the principles of moral excellence." No one is benefited by such productions except the person that writes them. It is personally good for Mr. Ellis that he should see that the extension of education is desirable, but it makes no difference whatever to other people. We want something more than vague, unmeaning propositions of this sort: we want an endeavour to meet the real difficulties of the case. All, or almost all, benevolent patrons of criminals — and we do not make the remark as more applicable to Mr. Ellis than to many other writers on the same subject, —we think, are too often for putting a great premium on crime, and making the existence of the criminal much better than that of the honest poor. If this kind of millennium of crime is ever established, it will be the serious duty of a parent to take a child on its seventh birthday to a baker's shop, and direct it to purloin a loaf: it will then receive an excellent education, certain support, and an advantageous home in a colony. Sir Thomas Tancred, in the other pamphlet we

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[7] "Economical Considerations on the Autocracy of the Bar, and of the System of Prescribed Tariff for Legal Wages." By Edwin W. Field. London: Wildy. 1856.

[8] "Where must we look for the Further Prevention of Crime?" By William Ellis. London: Smith, Elder, & Co. 1857.

have alluded to,[9] is in favour of having a governmental list of undetected criminals who, without any trial, are to be placed under the surveillance and at the mercy of the police. Sir Thomas Tancred owns that this proposal is likely to wound "a superstitious delicacy of trenching on the liberties of the subject and the safeguards of the constitution." We regard such a proposition as involving an entire impossibility; we could not have this governmental surveillance over innocent persons without an entire change in the habits and fundamental political notions of Englishmen; and, in the long run, we feel sure that the licence given to officials to disturb private life in order to carry out systems of public policy would, by its corrupting and irritating effect, prove a much more serious event than any number of burglars can cause. Sir Thomas Tancred's pamphlet is, in other respects, very much superior to that of Mr. Ellis, and he is not inclined to any foolish laxity of punishment.

Mr. Congreve has written a pamphlet[10] advocating the cession of Gibraltar to Spain. It is well worth reading; for it, at least, provokes thought, and belongs, from the knowledge it displays, to a higher order than most of the political pamphlets of the day. But it is to the last degree paradoxical. Mr. Congreve lays down that the States of Western Europe form a system, that therefore there must be a head to this system; and that France is this head. Among other reasons for giving France this pre-eminence, Mr. Congreve reminds us that France is the eldest daughter of the Catholic Church. What possible title to supremacy can Englishmen recognise that position as giving to France? We might as well claim supremacy for England as containing the greatest number of Quakers. We should like, did our space permit, to follow Mr. Congreve through all the reasons he adduces, as they are, many of them, the groundwork of what we think fallacies current among a certain set of politicians in England. Having settled his preliminary point, Mr. Congreve proceeds to say that each member of this system ought to try to make the system stronger, and that the best way to do this is to abandon all claims that can give offence. He is at last led to show how England can set about doing her duty; she holds Gibraltar, which is vexatious and insulting to Spain, and is a standing menace to the other powers of the system. Let her give it up: first, because it is of no value to her; and secondly, because it is so valuable to her, that all mankind will see that she sacrifices everything to principle. "Have we not benefited," says Mr. Congreve, "by the loss of Calais?" As Gibraltar is not the least likely to be given up, there is about as much practical use in a gentleman proposing to abandon it, as in our proposing to cede the Isle of Wight to a foreign power. It is all pure talk; but still it may be worth discussing. We have not space here to do more than urge two objections. The first is, that we really ought to be allowed to wait

[9] "Suggestions for the Treatment and Disposal of Criminals." By Sir Thomas Tancred, Bart. London: Hutchins. 1857.

[10] "Gibraltar; or, the Foreign Policy of England." London: John W. Parker. 1857.

until our mistress and guide, France, begins the work of self-spoliation. Why should poor, second-rate England presume to take the lead? Secondly, we do not the least believe that our occupation of Gibraltar is a standing insult to Spain: Gibraltar is not like Calais. The English had used Calais for ages as the key to invade France: the English kings, while holding Calais, laid claim to the French throne. We do not want to go into Spain, nor to govern that effete and unhappy country. Nor is Spain now in a position to be very susceptible about mere points of honour; and we believe that intelligent Spaniards, and even those most hopeful of their country ultimately becoming free and powerful, are at present quite content that England should retain Gibraltar.

Mr. Congreve is a man of ability and education, and therefore his paradoxes are at least readable; but there is nothing so dull as the paradoxes of dull men. There are plenty of them collected together in a pamphlet by Mr. Moncriff,[11] full of a hazy Toryism. He is all for our joining Russia, which is, he tells us, an eminently peaceful power, and did good service to the cause of Europe by restoring the iron crown of Maria Theresa. He hates France like poison, and philosophises on the United States and their Government, the consideration of which makes him wish that Washington had ventured on a *coup d'état*, and made himself hereditary king, which he might easily have done "had he not been possessed of that sort of starched prudery which prevents statesmen doing good to their country." We may rank with this production a publication by M. Golovin, called "Stars and Stripes,"[12] the object of which is to show "that the United States are pursuing a wrong way in their politics and morals, falsely interpreting their destination, and losing sight of the principles which presided at their formation." M. Golovin wishes to show that the American Republic is a delusion, and that all its men of business are rogues. The deduction is, that nothing will really do but a Red Republic of Socialism. The notorious Dr. Veron has published a sort of parliamentary companion[13] for the French Legislative Assembly, telling us who all the members are, what they have done, and whence they come. It is preceded by an uninteresting panegyric on the powers that be, and the Emperor is extolled as the saviour of France. The volume also contains a summary of the chief acts which the Legislative Assembly has been ordered to pass, and altogether it gives a considerable amount of acceptable information.

The great problem of connecting India with England is continually occupying more and more the attention of practical, scientific, and experienced men. Our readers are probably aware that two projects more especially are forced on the attention of the public. The one is the construction of a ship canal through the Isthmus of Suez, and the

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[11] "England and Russia, Natural Allies." By Bernard Moncriff. Edinburgh: Jack. 1856.

[12] "Stars and Stripes; or, American Impressions." By Ivan Golovin. London: Freeman. 1856.

[13] "Quatre Ans de Règne. Où en sommes-nous!" Par le Dr. L. Veron. Paris: Librairie Nouvelle. 1857.

other is that of the Euphrates Valley Railway. Mr. Renney's "Gates of the East"[14] will give ample information respecting the former, and Mr. Andrew's "Euphrates Valley Route"[15] will furnish all the information respecting the latter at present available. In the Isthmus of Suez the work proposed to be done is the cutting of a canal fit for the passage of the largest ships at the narrowest part of the Isthmus, from Pelusium to Suez; the improving the harbour of Suez, and the creating a harbour at Pelusium. The real question is—"Will the canal pay." Mr. Renney says, that at worst it will pay seven, and at best twenty-five per cent.; but he seems to expect that the works will never get out of order. The great objection to the construction of the canal, Mr. Renney owns, is that Lord Clarendon and Lord Stratford de Redcliffe are so strongly against it that they have prevented the Sultan giving his consent. We must acknowledge that we think this a very serious objection, and that in all probability Lord Clarendon has some strong reason for exerting his influence in this direction, if it is true that he has done so. There is, on the other hand, every probability of the railway being constructed along the Valley of the Euphrates. It is proposed to commence the railway at Seleucia, and terminate it at Bussorah. The English and Turkish Governments heartily support the project, and the latter guarantees a dividend of six per cent. It is obvious that this line will offer to England many local advantages, and many local openings for enterprise, only secondary in importance to those secured by it as a means of approach to our Indian empire.

Mr. Johnson has given us an imposing-looking volume, with the imposing title, "An Encyclopædia of Instruction."[16] The first part purports to consist of "Apologues," and the second of "Breviats." As a specimen of the Apologues, we may instance one telling us how Jupiter, determining to ascertain personally the grievances of mankind, alighted one fine summer evening on the battery in view, having descended on the back of a large eagle which he keeps exclusively for the saddle. The end of the visit is that Jupiter issues a decree that "management and mismanagement shall be subject to the control of men only." The Breviats are even still more dreary, trivial, and foolish. They are a collection of truisms written in a very disagreeable manner. Why should any human being, at this time of day, think it worth his while to make such remarks as that a man must not be ostentatious of his virtue and benevolence, for such conduct begets suspicion and disapprobation rather than respect and affection? We much prefer a work, by Miss Brough, called "Common Things regarding the Bringing-up of our Girls,"[17] for it is written

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[14] "The Gates of the East. Ten Chapters on the Isthmus of Suez Canal." By Charles Lamb Renney. London: Lock. 1857.

[15] "Memoir of the Euphrates Valley Route." By W. P. Andrew, F.R.G.S., Chairman of the Scinde Railway Company, &c. London: Allen. 1857.

[16] "An Encyclopædia of Instruction; or, Apologues and Breviats on Men and Manners." By A. R. Johnson. New York: Jackson. 1857.

[17] "Common Things regarding the Bringing-up of our Girls." London: Low. 1856.

with an intelligible purpose, and works towards it in an honest and straightforward manner. It begins with considering the spiritual, the physical, and the intellectual condition of young women. It then goes on nearer to its point by speaking of assistants and servants, takes one step forwarder by the insertion of certain letters complimentary to the authoress, and at last reaches the grand climax, aim, and drift of all, by announcing that at 11, Leicester-terrace, young ladies are educated with every possible advantage, and that it is unnecessary that silver forks and spoons should be sent with them.

Mr. Macleod's "Home School"[18] belongs to the class of pious, homely, unobtrusive writings which are fitted, we believe, to influence the class for whom they are intended, and certainly must influence them for good, so far as they influence them at all. We may also notice a pamphlet, by Mr. Unwin, on "Prussian Primary Education,"[19] in which there is much sound sense and much that is worth reading. We do not, indeed, think that Mr. Unwin at all understands what Sir John Pakington really meant in the passage of his speech to which Mr. Unwin offers his book as a reply. Sir John Pakington said that he did not see why primary education should not be made as universal in England as in Germany; he obviously never intended to have a machinery of education directly under the control of the central Government. But Mr. Unwin adduces several important facts to show what can scarcely be doubted, that where the whole education of a country is placed directly under the control of a Government which only wishes to secure its own power, all the freedom and life of education is completely gone. The King of Prussia is now using his power to instil what he honestly thinks is right into the minds of his people. All the great books of Germany—the works of its great men—are excluded from the curriculum, and, so far as the German mind can be tortured into barrenness, the Crown is working hard to impair all its powers of production. But we may hope that the fortunes of Prussia are now nearly at their worst, and that the time will come, before long, when the seventeen millions of inhabitants of a state inheriting the traditions of the Reformation will refuse to submit to a demoralising tyranny. We do not see any reason why the change should not be effected in a peaceful and orderly manner. A prince with a resolute heart, and a real belief in the value of liberty, could soon set in the right road a nation naturally so much disposed to walk in it.

The Civil Service Commissioners have issued a Second Report.[20] The examiners still find themselves obliged to reject many of the candidates, and the number rejected amounts to thirty-eight per cent. of the whole. This is a very large proportion, but it must be remembered that some years must elapse before the general edu-

[18] "The Home School; Hints on Home Education." By the Rev. Norman Macleod. Edinburgh. 1857.

[19] "Prussian Primary Education: its Organization and Results." Edited by William J. Unwin, M.A. London: Ward. 1857.

[20] "Second Report of Her Majesty's Civil Service Commissioners." 1857.

cation of the country can so far advance as to give a fit preparation to the great bulk of the candidates if the system is persevered in. Whatever may be its other advantages or drawbacks, at any rate it is certain to raise to a much higher level than at present the education of those persons who are in a position of life to seek for situations under Government; and already at the higher end of the long line of candidates the stimulus is beginning to tell. The Commissioners report that a larger number of persons have passed examinations, specially distinguished as creditable, this year than before, and this creditable proficiency is to be found not only in candidates for the higher clerkships, but also in those who have been selected for the lower situations. There is also another favourable feature to which the Commissioners draw attention, viz., that in those examinations which comprised both subjects, referring to the official duties which the candidate is to perform, and subjects prescribed for the purpose of testing his education and intelligence—the successful candidate is, with few exceptions, found to be superior to the unsuccessful in both branches of the examination. Altogether both the Report itself and the matter it contains incline us to take a most favourable view of the benefits which English education will probably receive from the system enforced by the Commissioners.

SCIENCE.

THE plan of the dissertation committed to the treatment of Professor James D. Forbes, is explained in an introductory chapter.[1] Following Professor Playfair, whose dissertation closes with the time of Newton, and Sir John Leslie, whose essay, though professedly devoted to the last century, embraces matters both belonging to the preceding and succeeding one, Professor Forbes marks out, as the arena of his own labours, the period between 1775 and 1850. He subdivides this period into three sections of twenty-five years, each of which possesses peculiar features of its own.

The scientific character of the last centenary period is thus sketched by the writer:—

"If we look for the characteristic of the centenary period just elapsed (1750-1850) we find it in this,—that it has drawn far more largely on experiment as a means of arriving at truth than had been previously done. By a natural conversion of the process, the knowledge thus acquired has been applied with more freedom and boldness to the exigencies of mankind, and to the farther investigation of the secrets of Nature. If we compare the now extensive subjects of heat, electricity, and magnetism, with the mere rudiments of these sciences as understood in 1750, or, if we think of the astonishing revival of physical and experimental optics (which had well-nigh slumbered for more than a century), during the too short lives of Young and Fresnel, we shall be disposed to admit the former part of the statement; and when we recollect that the same period has given birth to the steam-engine of Watt, with its application to shipping and railways,—to the gigantic telescopes of Herschel and Lord

[1] "The Encyclopædia Britannica," eighth edition. Dissertation sixth: Mathematical and Physical Science.

Rosse, wonderful as works of art, as well as instruments of sublime discovery, —to the electric telegraph, and the tubular bridge,—we shall be ready to grant the last part of the proposition, that Science and Art have been more indissolubly united than at any former period."

A broad view, like the above, of the general tendencies of scientific investigation, is calculated to remove prejudices engendered by local circumstances or individual peculiarity. There is a natural love of unifying in the human mind,—a constant effort to go back to the causes of things, and bring the multiplicity of phenomena under the control of principles and laws; and this tendency is, in some cases, so strong as to tempt the speculator not only to shirk, in his own case, the labour of following the experimental track, by which, in most instances, the secrets of Nature are unveiled, but to decry experiment altogether. We have heard it remarked, that the time had now come when experiment might be dispensed with, and the phenomena of Physics made the subjects of pure mathematical prediction. From the above paragraph, the incorrectness of such a notion may be inferred. The individual is sometimes tempted to accept his own condition as the transcript of that of Nature, and infer that she needs most what he can furnish best; but the peculiarity of the individual is eliminated in the tendencies of the race, and the history of these tendencies shows that the cultivators of science, so far from having exhausted the domain of experiment, have but just entered upon it, while those who have thus far been most successful in developing the riches of the domain know best how inexhaustible are its resources. The career of Faraday illustrates our position. He in early life heard the remark, that experiment was no longer of any value; that Science had so far progressed, as to place Nature in the hands of the mathematician, who was to disentangle her by *à priori* processes. Faraday, as a practical protest against this dictum, placed at the head of his investigations the title "Experimental Researches," and none will deny that his refutation has been complete.

The whole of this first section is written with great care and ability, and evidences, we think, in a striking manner, the peculiar powers of the author. Throughout the work, we find the estimate of these powers, derived from the perusal of this early portion of the dissertation, to a great extent verified. He has imagination, and facility of utterance. Delicate health often induces a degree of reflectiveness on the part of those who suffer from it, which enriches their mental experience; and, in this respect, Professor Forbes appears to have turned the leisure which weak health imposed upon him, to good account. The casual remarks on the eminent persons with which he deals, indicate a penetration and insight which could only be the result of close and long-continued observation. Thus, by a kind of reflex action, the remarks of the writer shed a light upon himself.

The first chapter of the essay, as we have said, is introductory; the second is on Physical Astronomy, and Analytical Mechanics, embracing notices of the labours of Lagrange, Laplace, Legendre, Leverrier, and Adams, and of other eminent men; the third chapter is on Astronomy, embracing references to Maskeleyne, Delambre, Sir

William Herschel, Bessel, Airy, Sir John Herschel, Encke, and others. The fourth is on the Mechanics of solid and fluid bodies, Civil Engineering, and Acoustics, embracing the labours of Watt, Robison, Thomas Young, the Stephensons, Babbage, and others. The fifth chapter is on Optics, where Young re-appears, associated with Malus, Fresnel, Arago, Brewster, and others. The sixth chapter is on Heat, including some topics of Chemical Philosophy; and here we find the names of Black, Cavendish, Dalton, Gay Lussac, Leslie, Fourier, Dulong, Melloni, and Regnault. The seventh and last chapter deals with Electricity, Magnetism, and Electro-magnetism, in connexion with the names of Galvani, Volta, Davy, Coulomb, Œrsted, Faraday, Ohm, Gauss, and others. Few, we think, could accomplish the difficult task here indicated, in a manner more suitable to the publication for which the essay is designed.

Associated with the account of their achievements, we have brief biographical sketches of the more eminent contributors to the treasury of Science; of Lagrange, who passed his days in philosophic tranquillity, retained all his appointments throughout the frenzy of the French Revolution, and who, if ever he felt jealously, felt it towards those who he thought attained too easily by circumstances to a high reputation. Monge seems to have been of this number. Of Laplace, who has been regarded as a type of the highest class of mathematical natural philosophers, but who, in point of character, differed widely from Lagrange. "He rather courted popularity, and was pleased at being considered worthy of political distinction. For a short time he was one of Napoleon's ministers; but the Emperor, it is said, was more satisfied with his mathematical than with his diplomatic talents." Of Legendre, who was three years younger than Laplace, and formed "an integral part of that constellation of mathematical talent of which Paris was, for more than two generations, the main centre." He had not Lagrange's powers of generalization, nor the mental flexibility and great physical knowledge of Laplace, but in his persistency in hunting down a difficulty he was exceeded by none. Of James Ivory, the most considerable British mathematician of his time, and upon the result of whose labours the historian of science dwells with especial interest, remembering "the singular destitution of mathematical knowledge which had reigned in this country for so long a period, and which left us not only no position in the great struggle going on abroad for the advancement of Physical Astronomy, but scarcely even the rank of intelligent spectators." Of Poisson, who, besides his great mathematical abilities, "was an eminent and diligent professor," and who, when urged to consult his health by reposing from work, replied "La vie c'est le travail." He exemplified this in his death, which occurred while he was engaged in the actual discharge of his duty as examiner of the Polytechnic School.

Passing over many great names, past and present, connected with the progress of Astronomy, we come to Sir William Herschel, who was born in Hanover, and was one of a numerous family who supported themselves by teaching music. On the 13th of March, 1781, while residing at Bath, he discovered the planet Uranus, the first addition

to the number of primary planets from time immemorial. He was soon afterwards brought by George the Third to live at Slough—a place characterised by Arago as the spot on the earth's surface signalised by the most numerous discoveries. The leading ones of these are:—the discovery of the binary system of stars and the orbits of several revolving stars; the discovery and classification of a prodigious multitude of nebulæ; the law of grouping of the entire visible firmament, and its connexion with the great nebula of the Milky Way; and the discovery of the motion of our sun and system in space. Herschel "united in a remarkable degree the resolute industry which distinguishes the Germans with the ardour and constancy of purpose which has been thought characteristic of the Anglo-Saxon. From his native country he brought with him a boldness of speculation which has long distinguished it, and it is probable that he had a vigorous and even poetic imagination. Yet he was ever impatient until he had brought his conjectures to the test of experiment and observation of the most uncompromising kind."

In Chapter III. modern observatories are considered, and from the associated names we select that of Encke. A comet next in interest to that of Halley was discovered by Pons in 1819. Encke proved that this comet revolved round the sun in an orbit within that of Jupiter. The most remarkable feature connected with this body is, that it occupies a less and less time in accomplishing its successive revolutions.

From	1786 to 1795	the time of revolution was	1208·22	days.
„	1795 to 1805	„ „	1207·77	„
„	1805 to 1819	„ „	1207·25	„

This observation is of particular importance, inasmuch as the motion is just what would take place supposing the comet to move in a resisting medium. It is, indeed, supposed that this medium is nothing else than the ether by which the pulses of light are propagated through space. So attenuated, however, is this ether that its effect through thousands of years upon the denser masses of the planets is imperceptible.

The progress of the steam-engine is sketched in association with the biography of Watt; the principles of civil engineering, strength of materials, art of construction, tubular bridges, with the associated names of Young, Telford, Tredgold, and Stephenson, are passed under review; and afterwards we fairly come into that domain of science which belongs more especially to the vocation of the writer of the essay, namely, Natural Philosophy. When we reflect upon the subjects already alluded to, and which constitute the first half of this dissertation, and consider the amount of reading, and digestion of reading, necessary to their effectual treatment, and connect this reflection with the known limits of man's powers in relation to time, we should be led to the conclusion that so wide a knowledge of surrounding subjects cannot possibly have been acquired save by an equivalent withdrawal of attention from those subjects which belong more especially to the vocation of a natural philosopher,—a withdrawal the effects of which may be expected to render themselves evident by an absence of that profound-

ness and accuracy, in dealing with physics proper, which a concentration of his powers upon this particular field would have enabled the author to attain. The correctness of this conclusion, though less strikingly manifest than might be expected, is still not without illustration.

At page 986, while referring to a point of cardinal importance as regards the theory of the voltaic circuit, Professor Forbes writes:—"There is one circumstance connected with the electric telegraph deserving of particular notice—I mean, the apparently infinite conducting power of the earth, when made to act as the vehicle of the return current. Setting all theory aside, it is an unquestionable fact, that if a telegraphic communication be made, suppose from London to Brighton, by means of a wire going thither, passing through a galvanometer, and then returning, the force of the current shown by the galvanometer at Brighton *will be almost exactly doubled* if, instead of the return wire, we establish a good communication between the end of the conducting wire and the mass of the earth at Brighton." Now, we think it will appear upon reflection that the above statement is, in all practical cases, at variance with fact. In the earlier experiments on the voltaic circuit which were made before the publication of Ohm's theory, the resistance of the battery itself was totally overlooked, and our author in the present instance has, we believe, committed a similar oversight. The wire external to the battery is not the only resistance which the current has to overcome—it may, indeed, be only a small fraction of the whole resistance—consequently, the abolition of half the wire cannot abolish half the entire resistance, and therefore cannot double the current. It would be a great mistake if, in estimating the pull of a pair of omnibus horses, we concluded that by halving the number of passengers we diminish the pull by one-half, forgetting the constant weight of the omnibus itself; and a mistake of a similar nature is made when, in estimating galvanic resistance, we forget the necessary resistance of the pile. We need only refer to Article 843 of the Essay for a statement of the true principles which govern the phenomena. While alluding to Ohm, we may be allowed to state that the estimate of his merit, at page 983, appears rather depreciatory. "We must be allowed to doubt," says Professor Forbes, "whether Ohm has thrown any new light on the real first axioms of electrical excitement or transmission." With equal justice, we think, might it be urged against Newton that he had thrown no new light upon the real axioms of gravitation. He reduced the phenomena of the heavens to numerical laws, and Ohm did precisely the same for the phenomena of the circuit; the result is unaltered, whatever be the way in which it was reached, whether by guess, inspiration, or experiment. On the subject of Magnetic Science more especially the essay is meagre, and not always correct.

In the statement of the discovery of Induction, in page 979, the author writes:—"Having made a compound helix of two copper wires wound parallel to one another, but not touching, and rolled one within the other upon a cylinder, he (Mr. Faraday) found that when he transmitted a continuous voltaic current through one wire, a *momentary* current (tested by a galvanometer) took place in the inde-

pendent helix in the same direction with the primary current." This is the reverse of the fact. The induced current here is in a direction *opposed* to the primary. We should be disposed to regard this as a misprint merely, were not the passage consistently erroneous throughout. "The same effect," proceeds our author, "occurred where a wire conducting a current was mechanically brought into the presence of another wire; the approximation of the two induced *a similarly directed* current—their separation a contrary effect." All this is, we believe, the reverse of the fact. The statement of Ampère's law in Article 796—"When two moveable conductors are placed at right angles, or indeed at any angle, they tend to parallelism"—appears to be also incorrect. If two wires, including an acute angle, be traversed by electric currents flowing in different directions, they become, if we mistake not, *more divergent*. But we will not search further for defects; nor would we dwell upon these save as a warning to the young philosophers who, tempted by the comprehensiveness of knowledge displayed in this volume, might be disposed to aim at a culture of a similar character, forgetful that such a culture is almost incompatible with that concentration of thought by which every great and glorious result in science has been attained.

Though scarcely within the scope of this article, the importance of the subject, and the general interest felt in it, will perhaps justify a reference to the remarkable lecture on the Conservation of Force recently given by Mr. Faraday, at one of the Friday evening meetings of the Royal Institution. The idea of the conservation of force,—of the indestructibility as well as of the uncreatability of force,—grew gradually out of the baffled efforts of the mechanicians of the last century to create a perpetual motion—a machine which should do work without any expenditure of power; but the principle is indebted for its formal utterance and most important developments to the scientific labours of the last twelve or thirteen years. Many have worked at the subject, and the credit connected with its enunciation, illustration, and expansion cannot be assigned to any one man in particular. Still, we think it worth while to state that the man who first gave explicit utterance to the principle of the conservation of force, as now understood, is M. Meyer, a physician of Heilbron, in Germany. To English and German writers, thus far, the development of the subject is almost exclusively due; the scientific men of France, with perhaps one eminent exception, still hold back from the formal recognition of the principle.

At intervals during the last few years, the thoughts of Mr. Faraday have turned towards the subject of gravitation. The difficulty which has beset every profound mind which has dwelt upon the subject—namely, that of conceiving the force of gravity acting through nothing from body to body—has driven him to seek a way of escape. The character of his recent lecture is, however, negative. He aims at showing that the law of gravitation, as generally expressed and understood,—the law, that is, of matter attracting matter with a force which varies inversely as the square of the distance,—is an open contradiction with the principle of the conservation of force.

Truly, if this could be established it would be a great point gained. The merit of clearing away an obstacle which has fronted the human intellect so long, and prevented its forward progress, would be equally meritorious with a positive advance. Mr. Faraday manifestly has been deeply impressed by a statement of Newton, in connexion with this subject, which occurs in his third letter to Bentley. Newton there explicitly states that the idea of one body acting upon another through a vacuum, without the mediation of anything else, by and through which their action and force may be conveyed to one another, is to him so great an absurdity, that he believes no man who has in philosophical matters a competent faculty of thinking can ever fall into it. Backed by this authority, and impelled by his own desire of knowledge, our eminent countryman has made a stand against what he believes to be a fundamental error in our conception of the nature of the force in question.

There are many parts of this lecture hard to be understood, and probably hardest to those whose minds have gone through the strictest scientific discipline. Living amid his own conceptions, vividly realising his own ideas, yet too cautious to prejudice them by a local dress, Mr. Faraday himself has probably no idea of the difficulty which his imaginative power, combined with his caution, places before his readers. In fact, he is to be divined rather than understood. To a mind of a quality like his own, accustomed to similar modes of thought, his meaning unfolds itself by a more direct process than that of logical sequences; and without this sympathy between him and his readers it is equally impossible to appreciate his truth or estimate his probable error. We know not whether we possess this sympathy to a sufficient degree; but we cannot do wrong in imitating the example so perfectly set before us by our author, by submitting, in a fearless yet humble spirit —a spirit which, in his case, ever made personal renown a secondary consideration to the publication of truth—the views which he has put forward to such brief examination as the nature of this article and our own capabilities enable us to bestow upon them.

The principle of the conservation of force is, that the amount of force in the universe is a constant quantity; and that we might as well think of a creation of matter as of a creation of force. The idea of gravity appears to Mr. Faraday to ignore this principle entirely:—

"Assume two particles of matter A and B, in free space, and a force in each or in both by which they gravitate towards each other, the force being unalterable for an unchanging distance, but varying inversely as the square of the distance when the latter varies. Then, at the distance of 10 the force may be estimated as 1; whilst at the distance of 1, *i.e.* one-tenth of the former, the force will be 100: and if we suppose an elastic spring to be introduced between the two as a measure of the attractive force, the power compressing it will be a hundred times as much in the latter case as in the former. But from whence can this enormous increase of the power come? If we say that it is the character of this force, and content ourselves with that as a sufficient answer, then, it appears to me, we admit a *creation* of power, and that to an enormous amount; yet by a change of condition, so small and simple as to fail in leading the least instructed mind to think that it can be a sufficient cause:—we should admit a result which would equal the highest act our minds can appreciate of.

the working of infinite power upon matter; we should let loose the highest law in physical science which our faculties permit us to perceive, namely, the *conservation of force.* Suppose the two particles A and B removed back to the greater distance of 10, then the force of attraction would be only a hundredth part of that they previously possessed; this, according to the statement that the force varies inversely as the square of the distance would double the strangeness of the above results; it would be an *annihilation* of force; an effect equal in its affinity and its consequences with *creation,* and only within the power of Him who has created."

The change of intensity as the distance varies is Mr. Faraday's great difficulty here; but the change, whatever be our view of the intimate nature of the force, is still a fact, and as a fact, must, if the principle of conservation be true, be reconcileable with that principle. Taking the case of Mr. Faraday, two gravitating particles, say at the distance 10 apart. At that distance there is a pull exerted; the magnitude of which pull might be estimated by its effect upon a steel spring. Let us suppose the magnitude to be thus determined. For the sake of simplicity, we will suppose one particle fixed and the other at liberty. We may represent this pull by a line of a certain length: and suppose this line to be erected as a perpendicular to the line joining the two particles, at the point 10. Suppose the particle now to move until it comes within the distance 1 of the fixed one, the perpendicular to be erected at this point would be 100 times the length of that erected at the first, for the pull would be 100 times as great. Now, let us suppose that perpendiculars are erected, not only at the two extreme points, but also at every other point over which the moving particle has passed, the perpendicular at each point corresponding in length to the magnitude of the pull at that point. The sum of all these perpendiculars, which is, in fact, the surface formed by placing them side by side, would express the sum of the *pulls* exerted upon the moving particle throughout its entire course. These pulls have been consumed, so to say, during the passage of the body; but, during this passage, motion has been imparted to the body, and when it reaches the distance 1, this motion will be equivalent to a certain amount of force. This force of motion is called in mechanics *vis viva;* and the principle of the conservation of force asserts that the *vis viva* generated in the manner described, is precisely equal to the sum of the pulls expended in generating it; or, in other words, the sum of the *vis viva* and the pulls is an unalterable quantity; either may change; both may change taken singly; but if one changes by accession, the other changes by diminution, the *sum* of both remaining always the same.

In like manner, if we suppose the moving particle, instead of approaching the fixed, to recede from it, to do so it must have a certain amount of *vis viva* imparted to it. The *vis viva,* for example, possessed by a comet near the sun, is sufficient to carry it away to a great distance, in opposition to the force of gravity. But in the case both of the comet and of our hypothetical particle, the *vis viva* becomes less and less; but, on the other hand, while the *vis viva* is diminishing, we are storing up pulls, and this store is exactly equal to the expenditure of *vis viva.* It is this equality, in the case of the comet, which brings it back exactly to the part from which it set out; so that here, as in

the former case, when we divide the forces of nature into two classes, typified by the *pull* and the *vis viva*, we find that the sum of these two classes of forces is as a constant quantity.

This, then, expressed popularly, is the principle of the conservation of force as regards gravity; and to this we think it will be seen the objections of Mr. Faraday do not apply. The principle will remain unshaken, no matter what changes our ideas as to the hidden cause of gravity may undergo. But in thus attempting to rescue the principle of conservation from peril, do we thereby assert that our ideas as to the nature and propagation of gravity are incapable of improvement? By no means; and here we recognize the inestimable advantage resulting from the shock of a mind like that of Faraday. It stirs up the thoughts of those who are but too liable to accept inertly the dicta of authority. Gravity follows the same law as light and heat—as that, indeed, followed by all emanations from a centre. Now, who can say whether this force does not act in definite lines which abut upon the attracting body, and extend from it in all directions through space; the force along every such line being invariable, and the law of inverse squares merely a consequence of the remoter fact that, at double the distance, only one-fourth the number of such lines seize upon the attracted body? This is a perfectly legitimate field of speculation; and it is also within the province of science to inquire whether the luminiferous ether may not play a part in the phenomena of gravitation. If by the introduction of any such idea we could get rid of the difficulty of a force acting across nothing, it would be a great gain. And whatever our private hopes, or our private despair, with regard to such a consummation may be, we cannot do otherwise than applaud the man who fronts with his private conviction, not a popular prejudice, but the opinion of the scientific world; who combines, with the boldness implied by such an act, perfect toleration for the views of others, and all whose efforts find their origin in the love of truth. Apart from its connexion with the present subject, there is something so practically wise in the remarks whereby he justifies his right to differ from mathematicians, that we are induced to transcribe the passage:—

"It may be supposed, that one who has little or no mathematical knowledge should hardly assume a right to judge of the generality and force of a principle such as that which forms the subject of these remarks. My apology is this, I do not perceive that a mathematical mind, simply as such, has any advantage over an equally acute mind not mathematical, in perceiving the nature and power of a natural principle of action. It cannot of itself introduce the knowledge of any new principle. Dealing with any and every amount of static electricity, the mathematical mind can, and has balanced and adjusted them with wonderful advantage, and has foretold results which the experimentalist can do no more than verify. But it could not discover dynamic-electricity, nor electro-magnetism, nor magneto-electricity, or even suggest them; though when once discovered by the experimentalist, it can take them up with extreme facility. So in respect of the force of gravitation, it has calculated the results of the power in such a wonderful manner as to trace the known planets through their courses and perturbations, and in so doing has *discovered* a planet before unknown; but there may be results of the gravitating force of other kinds than attraction inversely as the square of the distance, of which it

knows nothing, can discover nothing, and can neither assert nor deny their possibility or occurrence. Under these circumstances, a principle, which may be accepted as equally strict with mathematical knowledge, comprehensible without it, applicable by all in their philosophical logic, whatever form that may take, and above all, suggestive, encouraging, and instructive to the mind of the experimentalist, should be the more earnestly employed and the more frequently resorted to when we are labouring either to discover new regions of science, or to map out and develop those which are known into one harmonious whole; and if in such strivings, we, whilst applying the principle of conservation, see but imperfectly, still we should endeavour to see, for even an obscure and distorted vision is better than none. Let us, if we can, discover a new thing in *any shape;* the true appearance and character will be easily developed afterwards."

Professor Ehrenberg has made a very important as well as a very curious contribution to Microgeology,[2] by the discovery that a large proportion—to say the least—of the substance of the *green sands* which present themselves in various stratified deposits, from the Silurian epoch down to the Tertiary period, and which in some localities constitute a distinct formation beneath the chalk, is composed of the *casts* of the interior of the (generally) microscopic shells of Foraminifera and minute Mollusca, the shells themselves having entirely disappeared. The material of these casts, which is chiefly silex coloured by silicate of iron, has not merely filled the chambers and their communicating passages, so as to furnish a perfect model of the animal bodies which originally occupied them; but it has also penetrated, even to its minutest ramifications, that system of 'interseptal canals,' which Dr. Carpenter was the first to discover in Nummulites, and which has been subsequently traced out in numerous types of existing Foraminifera by Professor Williamson and himself. No more complete and beautiful demonstration could be afforded of this canal system, the existence of which has been called in question by high continental authorities, for no other reason, as we believe, than that they did not know how to make the thin sections which are requisite to demonstrate them. Professor Bailey, of West Point, New York, has furnished a very interesting pendant to Professor Ehrenberg's discovery, by the announcement that the very same process is at present going on over certain parts of the ocean bottom. The soundings which have been brought up from various parts of the Gulf of Mexico and Gulf Stream, in the course of the United States Coast Survey, chiefly consist of minute Polythalamous shells, in which traces of the soft animal body may be frequently detected; and mingled with these is found a green sand, which is shown by the microscope to be composed of casts of the interiors of shells of the very same species of Foraminifera, mingled with those of minute Mollusks, and with what seem to be the interiors of minute Corals. This identity of species clearly indicates that these casts are not merely washed out of ancient submarine deposits, but are the results of siliceous infiltration at present in progress. What may

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[2] "Uber den Grunsand und seine Erläuterung die organischen Lebens." Von C. G. Ehrenberg. Mit Sieben Kupfertafeln. Berlin. 1856. 4to, pp. 92.

be the physical cause of this remarkable action is at present quite unknown. It cannot be imitated by any laboratory processes.

Professor Von Siebold has recently made public the results of a series of researches on Insect-Reproduction,[3] on which he has been engaged for a considerable time, and which are quite remarkable enough to justify the prominence which has been given to them by Mr. Dallas's issue of an English translation of the original Memoir. The term Parthenogenesis was devised some years ago by Professor Owen, to designate a class of phenomena to which attention had been previously drawn by Professor Steenstrup's work on the "Alternation of Generations." Of these phenomena, the case of the *aphis*, long since made known by the observations of Bonnet, presents a characteristic example. The eggs of this insect are laid at the beginning of the autumn, and remain undeveloped during the winter; with the returning warmth of spring, however, they are hatched; but the progeny developed from them do not attain the full development of their parents, never passing beyond the condition of wingless larvæ. These larvæ, however, if copiously supplied with food, and exposed to sufficient warmth, will give birth to other larvæ resembling themselves, these again to others, and so on through a succession of about eight broods. Towards the end of the summer, however, the latest-born larvæ are developed into perfect winged aphides, some of them males, and others females; and by the sexual congress of these, true eggs are produced, which, being deposited on plants, reproduce the species in the next year, the whole previous generation being killed-off by the cold and privation of winter. Now, the wingless larvæ cannot be said to be true females; for it is obvious that, as all are equally capable of viviparous production, there is no distinction of sex at all; and besides, although they possess an organ resembling an ovary, from which the progeny are evolved, they are deficient in many other parts of the sexual apparatus of the perfect female. In fact, their condition is analogous to that of a plant which is extending itself by the formation of leaf-buds, the development of its flowering apparatus not having yet taken place; the only difference between the two cases lying in the fact, that the gemmæ, or buds, of the larval aphides detach themselves from the stock that put them forth, and live as separate individuals, whilst the gemmæ of plants usually (though not constantly) remain in connexion with their stock, and serve to extend it. And it is a remarkable confirmation of this analogy, that just as a tree which is copiously supplied with food and warmth will tend rather to put forth new leaf-buds than to develope flowers (so that our own fruit trees, transported to tropical climates, run to leaf instead of bearing fruit), so a sexual brood only appears naturally among the aphides towards the end of the summer, and may be indefinitely postponed—the non-sexual mode of production being kept-up in the mean time, instead of being limited (as Professor Owen

[3] "On True Parthenogenesis in Moths and Bees: a Contribution to the History of Reproduction in Animals." By T. E. Von Siebold, Professor of Zoology and Comparative Anatomy in the University of Munich, &c. &c. Translated by William S. Dallas, F.L.S., &c. 8vo, pp. 110. With a Plate. London. 1857.

has represented),—by continuing to the larvæ an adequate supply of food and warmth.

Now the Parthenogenesis of Professor Siebold differs from the Parthenogenesis of Professor Owen in this; that whereas the latter is in its very essence a sexual, the former consists in the deposition of fertile ova by true virgin females, that is by individuals whose complete development renders them fully competent to perform the sexual act in the ordinary way, but which are kept from doing so by seclusion from the male. That such an occurrence occasionally takes place among insects of various kinds, has been frequently stated upon what seemed to be adequate authority; but a careful scrutiny into the conditions of the best authenticated cases left Professor Siebold in doubt whether any of them really justified the affirmation; and he therefore determined to examine the question for himself. The result of his researches is, that he has established this to be the ordinary mode of reproduction among certain species—to say the least—of a tribe of moths termed *Psychidæ*, which are allied to the *Tineidæ* (or clothes' moths); whilst it occasionally happens in the silkworm moth, and, strange to say, forms part of the regular reproductive process among bees. The caterpillars of the Psychidæ form for themselves very curious cases of various materials, some being composed of particles of earth, glued together in the shape of a small snail-shell. When about to pass into the pupa state, they occupy the outer part of this case, and envelope themselves in a silken cocoon which closes its aperture. Here they undergo their transformation, first into the pupa, and then into the perfect moth; and that these moths are almost always females, appears from the statement of Siebold, that having examined a hundred and fifty pupæ within seven years, he has never found a single male. Though kept in such perfect seclusion that no male can possibly have access to them, the moths will still produce eggs, which they deposit in the empty pupa-case that remains behind in the caterpillar-sac; and these eggs are soon hatched, and give birth to caterpillars. Whether these, when arrived at maturity, could produce fertile eggs by the same parthenogenetic process, has not yet been ascertained.

With regard to the Silkworm, it has been ascertained by careful experiments, that female moths completely secluded immediately on their emersion from the cocoon, will often lay eggs; and that these eggs will give birth to larvæ, which are metamorphosed in due time into moths. But, as far as can be predicated from the results hitherto obtained, the eggs which the females of these moths may produce under like circumstances are not fertile.

The case of the Hive-Bee, however, is the most curious of all. Every one knows that each community includes a single queen, who is the only perfect female, and by whom alone eggs are ordinarily produced,—numerous drones, or males,—and a vast number of workers, which are commonly termed neuters. All these are evolved from eggs, which are deposited in waxen cells of different kinds. Those for the drones and for the workers are both of the ordinary hexagonal build; but the drone-cells are considerably larger than the worker-cells. The royal cell, however, is constructed on a very different plan; and the food

with which the royal grub is nourished, is quite unlike the ordinary bee-bread. Yet the experiments of Huber, abundantly confirmed by subsequent inquirers, have demonstrated that a worker-grub, not too far advanced in its development, if transferred to a royal cell, and fed on the peculiar nutriment of the queen larvæ, becomes developed into a perfect queen; whence it appears that the workers are really undeveloped females, a conclusion quite justified by a careful scrutiny into their organization. Until recently, however, no doubt has been felt as to the fact, that all the fertile eggs laid by the queen-bee, whether workers, drones, or queens be developed from them, are the result of sexual congress between the parent-queen and one of the drones. This congress is known to occur, not within the hive, but in the air, during what has been termed the nuptial flight; and the practised bee-keeper has no difficulty in determining whether it has or has not taken place. As in insects generally, a single congress serves for the fertilization of a multitude of eggs successively developed; the fertilizing fluid being stored up in a receptacle opening upon the oviduct, and thus each egg is impregnated as it descends. From time to time, however, observant bee-keepers have stated that queens whose wings are so imperfect that they cannot leave the hive for the nuptial flight, have nevertheless laid fertile eggs, all these eggs being drone eggs; and further, that workers have occasionally laid fertile eggs, which, as before, are always drone-eggs. As there was strong reason to believe that in neither case could sexual congress have taken place, there seemed to be a probability that these drone-eggs are the result of a parthenogenetic procreation, analogous to that of the psyche and bombyx; and Professor Siebold, after carefully examining into the question for himself, has arrived at the conclusion that such is assuredly the case. But since the queen impregnated in the ordinary way also lays drone-eggs, and this in the midst of laying worker-eggs, the question next arises whether some drone-eggs are fertilized by the male fluid, though others are not so fertilized, or whether the drone-eggs of an impregnated female are in any way prevented from receiving its influence. This problem could only be solved by careful microscopic examination of the eggs immediately upon their being laid; and the observations of Professor Siebold (whose high reputation as a trustworthy observer is a sufficient guarantee of the credibility of his assertions) enable him to affirm, that whereas the fertilization of the worker-eggs by the male fluid can be recognised by the presence of spermatozoa upon each one of them, no spermatozoa are detectable upon the drone-eggs; so that the drone-eggs, whether proceeding from virgin or from impregnated queens, are always deposited without any fecundation from the male. This is a most marvellous doctrine; and if it should prove correct, it introduces quite a new element into the physiology of generation. It is not the least curious part of the history, that the very same eggs, so far as can be made out, may give origin either to males or to females, the difference of sex being determined by the presence or absence of the male fecundating influence; and it tends rather to subvert the usual notions of male superiority, to find that in this case the complete performance of the generative

act gives birth to females, and that the males originate in what seems like a lower form of the process. The whole matter, however, requires a most rigorous and repeated investigation before the facts of the case can be regarded as proved, since the sources of fallacy are very numerous; and it is not a little curious that Dzierzon, the originator of the theory of the parthenogenetic production of drones, should have afterwards retracted it, at the very time that Professor Siebold's investigations were affording it new and powerful support. We commend the inquiry to intelligent bee-keepers throughout the country, as one the prosecution of which will do good service to science; for if the whole doctrine be erroneous, the sooner it is disproved the better; whilst if it be founded in truth, its confirmation will lead to analogous investigations elsewhere.

We are glad to learn from the translator's preface, that the subject of parthenogenesis in insects is engaging the attention of British Entomologists; the fact that of many species of *Cynips* (gall-fly) only females are known, having led to the suspicion that the appearance of males among them may be only occasional, and that many successive broods may be produced without their intervention. Analogous phenomena have been recently brought to light in the Vegetable Kingdom: thus at Kew there is a female specimen of a dicœcious euphorbiaceous plant from Australia, which has produced, year after year, fertile seeds, although no male plant is known to exist in this country, and plants reared from these seeds (if we are rightly informed) have repeated the same phenomenon; and a French Botanist, M. Lecoq, has obtained fertile seeds from female plants of hemp, spinach, and other dicœcious species, which were carefully isolated from communication with male plants. It is obvious, therefore, that we are far from knowing the whole truth respecting sexual reproduction; and that the entire subject needs to be carefully reinvestigated, before any general conclusions can be regarded as securely established.

The want of some especial treatise on Cryptogamic Plants has long been felt by British botanists, and there is no one among them whose qualifications for supplying it can be at all compared with that of Mr. Berkeley.[4] For although others may have made a more minute study of particular orders, yet his acquaintance with the entire group is at once so comprehensive and so detailed, as to enable him to make full use of their contributions, whilst it enables him to indulge in generalization where they can only speak with safety of specialities. Cryptogamic botany, however, is at present in such a transitional state, that no systematic treatise upon it can be regarded as having more than a temporary value. It is not many years since the researches of Count Suminski, on Ferns, gave the first clue to the knowledge of the true sexuality of these plants, the very possibility of which, notwithstanding many indications of its existence, had been previously denied by botanists of the highest eminence. In following out this clue through the intricacies and obscurities presented by the peculiar

[4] "Introduction to Cryptogamic Botany." By the Rev. M. J. Berkeley, M.A., F.L.S. With 127 Illustrations on Wood. 8vo, pp. 604. London. 1857.

organization of many Cryptogamia (which can only be elucidated by those who are possessed of a thorough mastery of the subject and of great dexterity in microscopic manipulation), it has been found that in numerous instances the structural distinctions employed as the basis of classification were altogether fallacious; different forms of fructification, among the Fungi for example, being developed on the very same plant; whilst in other cases, as among the lower Algæ, forms so dissimilar as to have been ranked not merely as distinct species, but under different genera, have been shown by careful and continuous study to be but successive phases of one and the same plant. Again, the progress of microscopic inquiry is continually altering the boundary line between the Vegetable and Animal Kingdoms; its general tendency being to restore to the former one tribe after another which had been transferred to the latter by Ehrenberg. It might have been doubted whether a few years' delay might not have been advantageous under such circumstances, as enabling the new bases of classification to be more satisfactorily determined, and giving time for the whole subject to settle itself anew after the *bouleversement* it has so recently undergone. But Mr. Berkeley has doubtless thought that the adage, *Ars longa, vita brevis*, is fully applicable to the present case; and that whilst he might wait long enough for such a re-settlement, the publication of a systematic treatise which should embody the result hitherto attained, would greatly contribute towards it. For this labour of love his work deserves, and we doubt not will receive, the cordial appreciation of every student of Cryptogamic Botany; and it must become the guide of every Cryptogamist, whatever may be the department to which he may devote himself. A systematic treatise of this kind is obviously not a subject for an analytical notice; and we must content ourselves, therefore, with this general account of a work, the laborious nature of which is apparent on every page, whilst the high reputation of its author is a guarantee for its accuracy and (so far as circumstances admit) its completeness. A very copious bibliography and an excellent index add greatly to its value. The only point as to which we cannot speak with satisfaction, is the character of the illustrations, which are far from being executed in the style that is befitting such a work, and are, moreover, by no means so numerous as they should be. For this defect, however, we apprehend that the publisher rather than the author is chargeable.

In Dr. Harvey's "Essay on the Structure and Growth of Trees"[5] an attempt is made to clothe abstruse scientific ideas in a popular form, and not by any means without success,—a great deal of interesting information being conveyed in a clear and attractive style. The author's notions of the formation of wood, however, are rather in conformity with the doctrines which held sway in this country twenty years ago, than with those of the present time; and his pet idea, that every tree is a collection of annual plants, each leaf-bud being limited

[5] "Trees and their Nature; or, the Bud and its Attributes: in a Series of Letters to his Sons," by Alexander Harvey, A.M., M.D. Illustrated with Engravings. Fcap. 8vo, pp. 236. London. 1856.

in its duration to a single year, and every new succession growing as it were parasitically on the dead remains of its predecessors, cannot be accepted by those who are acquainted with the real facts of vegetable development.

Although Germany has lately sent forth numerous systematic treatises on Human Physiology of its own, from authors of the highest eminence, it now contributes another which it has adopted from a foreign source. Professor Donders, of Utrecht, has long been known to men of science as one of the most accomplished anatomists and physiologists of the day; though his general reputation has been limited by the fact, that the memoirs which he has published from time to time have been written in a language known to but few out of his own country. He now comes before the scientific public, however, as the author of a systematic treatise[6] in a language cognate to his own, which has received the able revision of Professor Theile; and we do not hesitate to say that if completed as it has been begun, it must rank as one of the most comprehensive and elaborate of all existing works on the subject, showing a full appreciation of all that microscopic investigation, experimental inquiry, and chemical research have contributed towards its elucidation. The volume before us is devoted to special physiology, and embraces circulation, digestion, sanguification, respiration, and cutaneous secretion.

The first volume of a far more comprehensive work on Physiology,[7] however,—embracing the entire Animal Kingdom, together with Man,—has just appeared from the pen of Professor Milne-Edwards. Such a work could only be advantageously executed by a man of the highest qualifications for the task, having at his command the adequate materials, and able to secure the assistance of numerous *collaborateurs*. In all these particulars Professor Milne-Edwards (whom we are proud to claim as in part a countryman of our own) is the man of all others whom we regard as most fitted for it; and we trust that he will be able to carry it through on the scale on which he has commenced it. The Royal Society, at its last anniversary, conferred upon Professor Milne-Edwards the Copley Medal—the highest honour it has to bestow—as a mark of its appreciation of his contributions to Zoology and Comparative Anatomy; and we are sure that this award was felt by every one who is acquainted with the value of his labours, to have been most richly merited. The only volume of his *opus magnum* which has yet appeared, is limited to the General Introduction, the Blood, and the Chemistry and Physics of Respiration, which subjects are treated with the most elaborate completeness, so that the volume is a perfect

[6] "F. C. Donders, Ord. Prof. der Medicin au der Universität Utrecht, Physiologie de Menschen. Deutsche Original ausgabe, vom verfasser redivert und vervollstandigt und aus dem Holländischen Uberselzt, von Fr. Wilh. Theile. Erster Band: Die Ernährung. Mit 123 eingedruckten Holzschnitten. Leipzig, 8vo, pp. 485. 1856.

[7] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux, faites à la Faculté des Sciences de Paris." Par H. Milne-Edwards, Professeur au Museum d'Histoire Naturelle, &c. &c. Tome premièr. 8vo, pp. 530. Paris. 1857.

encyclopædia of all that relates to them. We fear to surmise how many volumes will be required to carry out the whole upon the same scale; and hope that both we and its learned author may live to witness its completion.

It will be long, we apprehend, before we shall see in this country a treatise on Physiological Science which shall bear comparison with either of the preceding in the scale of its construction. As text-books for students, we believe that our British treatises can advantageously compare with any Continental ones; but no publisher will here venture upon a work which has the higher aim of representing the present state either of Human or of Comparative Physiology with that fulness of detail that the present advanced state of science demands; and none of our men of science can be expected to take upon themselves not merely the labour but the cost of such a production. And so it is likely to remain, until a higher education shall increase the demand for such works, by making Physiology an object of interest to the general as well as the professional student.

Germany has sent us another of those treatises on a hypothetical force—the supposed cause of the phenomena of Mesmerism, Sympathy, Magic, Spiritual Communications, and the like,—which exhibit a certain capacity for grouping together analogous phenomena, without, however, any philosophical power of dealing with them analytically. We hold that no investigation of this kind can possess any scientific value, in which the ground is not first cleared by ascertaining how far agencies whose nature has long been admitted, are sufficient to account for the phenomena. It has been shown by physiologists, that the state of "expectant's attention" goes a great way; and some recent inquiries indicate that impressions long previously made unconsciously upon the brain, which have left no trace in the memory, may determine very curious results at a remote period. But of these considerations no adequate notice is taken by Dr. Carus; and we cannot regard his book[8] as having advanced the philosophy of the subject in the least degree.

The influence of Climate and locality on disease are now receiving a far more careful scrutiny than heretofore; the means of determining climatic conditions being now much more precise, and medical observation more intelligent than formerly. Dr. Radclyffe Hall has furnished a valuable contribution of this kind in regard to his own locality;[9] and after a careful examination of its pages, we can strongly recommend it as a candid and discriminating exposition both of the advantages and disadvantages of a residence at Torquay, to those suffering under pulmonary disease.

There cannot be a doubt that the discussions to which the Homœopathic doctrines have given rise, have had a great influence on the recent course of Medical Science and practice. Looking upon the infinitesimal-dose portion of the system as a reaction against the excessive dosing and drugging of the ordinary routine practitioners, we

[8] "Ueber Lebensmagnetismus und über die Magischen Wirkungen überhaupt." Von Carl Gustav Carus. 12mo, pp. 306. Leipzig. 1855.

[9] "Torquay in its Medical Aspect as a Resort for Pulmonary Invalids." By C. Radclyffe Hall, M.D., &c. &c. 12mo, pp. 165. London. 1857.

have no hesitation in the belief that this influence has been most beneficial, by reducing the quantity of physic administered, and by tending to produce a more rational estimate, both on the part of the profession and of the public, as to what physic may and may not be expected to do. But these discussions have also had the effect of directing the attention of intelligent observers to the natural history of disease, that is to say, the course of its phenomena when not interfered with by art, and its tendency either to death, or to complete or incomplete recovery. The importance of this study was first pointed out by Sir John Forbes, in 1845, in an article in the "British and Foreign Medical Review," then conducted by him, entitled "Homœopathy, Allopathy, and Young Physic," which excited a great deal of attention both in the medical and general public, and the essential truthfulness of which was privately admitted by many who openly denounced it as injurious to the interests of the profession. The positions taken by the author were of the following kind:—1. That in a large proportion of cases of disease there is a tendency to spontaneous or natural cure, which may be favoured by due attention to the conditions which ordinarily promote health, such as appropriate diet, free respiration, exercise or rest as circumstances require, and especially by the mental expectation of recovery;—2. That to this tendency are we to attribute a large proportion of the recoveries under ordinary (allopathic) treatment, and all those which take place under the homœopathic regimen, the latter, when honestly followed, being simply inert for good or evil;—3. That the interference of Art should only be had recourse to, when it can be fairly expected to assist Nature in her curative efforts, or to antagonize some process which is obviously detrimental;—and, 4. That a rational system of Medicine can only be based upon the careful study of the natural course and termination of diseases, and of the operation of remedies in modifying their phenomena. It has been generally understood to have been Sir John Forbes's intention to develope his views in a systematic treatise on Rational Medicine; but as advancing years have warned him that he can scarcely expect to finish his work according to his original plan, he has now published what he has already prepared as a general introduction to the subject, in the hope "that the general views here given will enable such junior practitioners as may study them to apply them, of their own accord, to the improvement of their treatment of diseases, by strengthening their confidence in Nature's powers, and by mitigating, in their hands, the evils of polypharmacy, and of that meddlesome and perturbative practice so predominant in this country." This little book[10] well deserves to be attentively studied, both by the medical practitioner and by the general public. The former will find in it both his true vocation and the mode in which he should follow it, most discriminatingly set forth; whilst the latter will learn that the greatest obstacle to Rational Medicine is the craving of the patient for some more potent system of treatment than a judicious adviser feels it

[10] "Of Nature and Art in the Cure of Disease." By Sir John Forbes, M.D., D.C.L. (Oxon), F.R.S., &c. 12mo, pp. 264. London. 1857.

desirable to adopt. To give Nature fair play by every means that can favour her own curative operations, is the first duty of the physician in the great majority of cases; to watch the course of disease, and to interfere only where he feels a reasonable confidence that he can do so with good effect, or at any rate without doing mischief, is his second. In urging these views upon the profession, Sir John Forbes is really doing no more than enforcing, with all the advantages of modern science and the experience of two thousand years, the principles of Hippocrates, the Father of Medicine, whose sagacity had completely anticipated them; and when attacked, as he undoubtedly will be, by the representatives of that part of the profession which tries every new system by the standard of its own supposed interests, he may fairly claim the protection of this universally respected authority. Although he has been accused of a leaning to homœopathy, yet no one of his readers can fail to perceive that in upholding Nature and Rational Medicine, Sir John Forbes most strongly repudiates Homœopathy as a system; its entire fabric being based upon a professed disregard of Nature, and an unbounded confidence in the resources of Art. How completely this system is opposed to all sound philosophy, and, when fairly scrutinized in its working, to the teachings of experience, has been further shown in the able and temperate but closely reasoned article on the subject, contributed by Dr. W. T. Gairdner to the "Edinburgh Essays." [11]

[*We are sorry to be obliged to inform our readers that, in consequence of the sudden illness and death of Mr.* John Mitchel Kemble *(the eminent Anglo-Saxon scholar and archæologist), who was preparing the Section*—"History, Biography, Voyages, and Travels," *we are compelled to omit it from this Number of the Review.*]

BELLES LETTRES AND ART.

LEGI, probavi, which a conscientious critic would wish to stamp upon every book submitted to his judgment, are little words that involve now and then a greater amount of persistent labour before they can be honestly pronounced than authors will ever believe possible, or care to make allowance for. This is never more the case than when a long modern epic is attempted. The highest effort of poetical genius, it naturally requires a concentration of all the faculties that go to produce poetry, and necessitates artistic skill and sustained power so rarely combined, that an epic poet comes not once in a century. The bare announcement that a living man has composed an epic poem puts us on our guard, and is the signal for a sort of derisive freemasonry, by which we understand that a certain one has thought himself chosen of the gods to do a work of superhuman strength and fitness. A dramatist need not be a lyrist, nor a lyrist dramatic.

[11] "Homœopathy." By William T. Gairdner, M.D., Lecturer on the Practice of Physic. (In the "Edinburgh Essays" by Members of the University.) Edinburgh. 1856.

An epic poet must be both. He must be at once thoroughly possessed of the human heart, and entirely songful; keenly alive to the political life of his times, yet capable of the loftiest flights; it is for him to conjoin absolute matter of fact with the fiery zeal of imagination; and, while knowing nature and man as they never have been known, to shape them in unexampled song. To this add every technical qualification of his art; command of variety and aptness in language, a verse ranging over every chord of music, in sympathy with the inspired emotions—swiftness, gentleness, and perfect flow; an energy never flagging, and never insisted on. In fact, he must sway the whole orchestra, and be in himself every instrument. We seldom get a good dramatist, and a true lyrist is nearly as rare; but put together all the fine poets of the preceding generation, and it is doubtful whether you would fashion an epic poet out of them. When, therefore, a poem is twice given to the world with the author's reiterated avowal that he regards it in the light of *Epopeia pure*, it cannot escape being subjected to the severest critical tests. Does he know what stuff we are made of? we ask. Can he sing?—and perhaps we ask the latter question first;—for, if song is not in him, mere perusal of his performance is a task second only to the drudgery of composing it. In his "Judgment of the Flood"[1] Mr. Heraud selected a grand subject, and to have launched on such a theme claims the presence of remarkable powers. It presents a more human catastrophe than "Paradise Lost," and has for its hero a conquering man. It should have been animated, dramatic; it is instead, philosophic and abstruse. Mr. Heraud's mind has been too deeply penetrated and impressed by the meaning of the dread event. The aspect of destiny chills rather than spurs his imagination. But one prime objection is, that Mr. Heraud's blank-verse is too sedate and slow. We must walk with him in his philosophic robes, and listen; he will not give us "a lift," so that at the end of the first book, being mortal, we are wearied out. Another objection is, that he does not paint scenes like one who has his eye on them. He describes the Vale of Armon in one hundred and fourteen lines, and not a single image of the place is marked on the mind.

> "Grand is the noon on Armon; passing grand
> And glorious, pride of day. There silence reigns
> Profound, and solitude magnificent;——"

Just as it might in another valley—

> "Sweet is the twilight eve in Armon's vale,
> Sweet, lovely, tranquil; sometimes darkly throned,
> And oft refulgent: soft the western wind,
> Floating white clouds through silent depths of blue,
> O'er hills and haunts secluded; where the voice
> Of waters murmurs with the bleat of lambs,
> And, from the fungous hollow of old oak,
> The lively squirrel starts, pleased with the songs,
> From thicket gushing, of the pious birds;
> Homage and pageant, duteous to the hour
> Of sunset.——"

[1] "The Judgment of the Flood." By John A. Heraud. New Edition, revised and re-arranged. London: David Bogue. 1857.

This is catalogue—not description. Mr. Heraud seized a grand opportunity in the trooping of the animals into the ark. See an example of what he has made of it:—

> "Nor was the mouse, mean creature, yet full oft
> Graced with no little elegance of shape,
> And striped colour, absent; noxious though
> To housewife, and to husbandman provoked."

We seem to be reading the "Splendid Shilling." Beast and bird is ticketed as it passes:

> "The condor, and the vulture Californ,
> Both large of bulk, one caruncled of beak,
> And void of comb, but both with ruff of down,
> Female and male, about the neck ornate."

One almost fancies Mr. Heraud had a book of natural history before him at the moment. The close of the poem is vague in feeling. Full of the divine mystery, weighing him down throughout, Mr. Heraud has no time for human pathos in sight of the drowned earth:—

> "Not without tears, the patriarch's family
> Gazed on the doomèd world. In Noah's breast
> The venerable Chava hid her face,
> In grief extreme; and very sad it was
> For thee, Ahama; though with Japhet blest,
> To leave so bright an orb: and Leila, thou
> Wert sorrowful exceedingly; nor thou,
> Ahola, might'st restrain the gushing heart."

To conclude: The "Judgment of the Flood" contains some striking conceptions, is reverent, never deficient in dignity, though often indiscriminate in its pomp of phrase; and, to our mind, may be advantageously compared with the more popular (because less philosophic) "Course of Time."

We now breathe a different air. We are in Homer's realm—among the isles of Greece. As men coming up from an ocean-cavern hail the sparkling of sunlight on the sea—the "innumerable laughters"—as a blessing and a delivery, we turn to Professor Blackie's "Lays and Legends of Ancient Greece"[2] light of heart, and with a grateful sense of freshness in the nostril. We may be a fireside people, but we love out-of-doors life, or what we understand as Nature, almost as well as did the Greeks of old—in books, at least. He who will shape the ancient Hellenic legends for us, simply and melodiously, is sure of a welcome, whether poet or not. Professor Blackie has already shown us in his English "Æschylus" what his powers of versification are. Elegant and spirited, there was a mastery in his rendering of the choruses worthy of original effort; nor have we to start as we look through these "Lays and Legends," because soul is wanting. The scholar, though always present, is never intrusive—the fire is not

[2] "Lays and Legends of Ancient Greece, with other Poems." By John Stuart Blackie, Professor of Greek in the University of Edinburgh. Edinburgh: Sutherland and Knox. London: Simpkin and Marshall. 1857.

choked with ashes. The volume boasts no fine passages, but contains many charming ones. The phraseology is of the old school; stock expletives are employed, familiar to us dutiful sons who have read the paternal imitations of the eighteenth-century poets, and who have ourselves appropriated them in turn without thought of larceny, or of what we were saying. Prometheus opens—

"Blow blustering winds; loud thunders roll!
Swift lightnings rend the fervid pole
With frequent flash! his hurtling hail
Let Jove down fling! hoarse Neptune flail
The stubborn rock,——"

We wish that Professor Blackie had been here a little less mindful of his native classics. But we seldom have to complain of this kind of rivalry. His "Galatea" is delightful, and reads like the very piping of a pastoral shepherd in Arcady.

"Hast heard the ancient story,
The worthy old Greek theme
Of lovely Galatea,
And ugly Polypheme?
It is a tale of sadness,
As many tales there be:
Attend, and I will tell it,
As it was told to me,
There lived a heathen giant
In ancient Sicily,
A son of strong Poseidon,
That rules the stormy sea—
A huge unsightly monster:
Beneath his shaggy hair,
(So learned Virgil sayeth,)
One big round eye did stare.
His trunk was like a huge tree
Deep buried in a moss;
His skin was hard and horny,
Like a stiff rhinoceros.
On bloody food he feasted;
As ancient tales relate,
Each blessed day to supper
Two living men he ate,
A score of goats' milk cheeses,
And, mingled with black gore,
Red wine he drank in rivers
Till he could drink no more.
This monster was enamoured
(That such a thing should be!)
Of lovely Galatea,
A daughter of the sea.——"

It is not Theocritus, but it is unpretending ballad-song. "Ariadne" we are inclined to rank first in point of vigorous verse. The refrain of "Heraclitus" is good, although strongly recalling the "Brook" of the laureate.

"Nothing to hold itself is strong
But all things like a river,
Roll along, and swirl along,
And bubble along for ever."

We object to the classic accent on the third syllable of "Marathon:"

"Ye mothers weep for sons that shall sleep
In gore on Marathon."

The ring of the refrain is lost. Mr. Macaulay is never thus pedantic in accentuation, and therefore never misses an effect. We have had "Marathon" in English rhyme before, and cannot be reconciled to Marathōn.

"The mountains look on Marathon,
And Marathon looks on the sea."

But apart from this, when the last line is a foot shorter than its predecessor, to end it with a word of three syllables is to turn Pegasus afield with a heavy drag on his fetlock, and stressing the last syllable makes the good horse too conscious of a tether. Among the miscellaneous poems, we are especially pleased with the "Farewell to the Rhine," which gives us that strange *Sehnsucht nach dem Rhein* known to those who have a deeper than steamboat acquaintance with the noble old river.

Sir Edwin Gilderoy[3] is a knight who travels behind an enormous quantity of baggage, and at a very jog-trot pace. We find it hard to go halting beside him long. He is introduced to us at a time when he mourns to see

"——Old England's wealth,
By hireling rulers sucked;
For peasant ill, and noble fared,
Whilst such had usufruct."

In this confusion of his mind, no wonder he cared little for "pleasantness, or eyesight's jubilee." His face, says the poet, with a considerate regard for metre, was "melanc'ly." He is heavily panoplied in the old style, deeply sworn to the fair Clotilda de Malvy, whom, when opportunity presents, he devoutly pledges in a "private health," a custom honourable to his knighthood—and occasionally,

"A fav'rite catch he dulcely trills,
Heard often in St. Loe."

This catch being one in his own glory and praise, sung over Normandy by the aforementioned Clotilda; wherefore we should pronounce the "dulce trilling" to be not so honourable to his knighthood. "In sooth," "eftsoons" and a dozen other chivalrous phrases notwithstanding, he is a sorry figure of a ballad-knight, fitter to ride from the Mansion-house to Westminster than from Eltham to Normandy; and to sum up, Eltham gave him birth, and Limbo claims him for her own. In the Introductory Essay, Mr. Burghley proves that he can write readable English; and although somewhat crude and rather more pos-

[3] "Sir Edwin Gilderoy: a Ballad." By Feltham Burghley. London: John Chapman. 1856.

sessed in favour of Sir Edwin Gilderoy than critical taste, even in the parent muse, should justify, his prose is marked by scholarly feeling, and he appears to have considerable acquaintance with ballad literature. We look upon "Sir Edwin Gilderoy" as a symptom of his labouring under some mania for the middle-age garb—shirts of steel and sandal shoon. His poetical powers may be higher than his present production would tempt us to estimate them.

With a little more care and polish, the "Pencillings in Poetry"[4] would contain verse of which a good poet need not be ashamed. Mr. Vicary says of Love, that "*he e'en* can scan the breast." We grind our teeth. Again, at the end of some flowing lines, we meet—

> "Can a tongue like this *e'er err*,
> Or need an interpreter?"

And, by the way, the accent in the last line is false to the feeling. Power, original or imitative, Mr. Vicary does not evince, but he has good taste, and so exquisite a sense of music, that we are astonished he should have allowed phrases to stand which read like the cutting of cork to our ears, and are altogether unendurable.

Happy the man who has a poet to review! we exclaim on opening Professor Wilson's third volume of Essays,[5] and reading the name of Robert Burns. It was written, however, that he should taste something of what modern critics suffer, for further on we encounter Tupper's "Geraldine." That arch offender was then young in daring commonplace, and would not be handled so mildly in these days. "Christopher on Colonsay" is in North's best "slap-dash:" humorous action and capital description go hand and rein, and whoso reads this great race, when the winner (who but Christopher?) was "seven hours in the saddle, with nothing to eat but breakfast and lunch, a few horns of ale, a sack of Glenlivet, and a tumbler of elder-flower wine," besides counting a heap of joyous catastrophes—will have as vivid a remembrance of Colonsay as of Rosinante.

In art literature the Turner controversy is re-opened. Mr. Young takes up Mr. Ruskin's gage in a book.[6] Mr. Young argues coolly, and reasons closely. His tone is that of a gentleman and a scholar; and if he, too, must use the weapons common to vexed questions, and occasionally joke and sneer, he has been much tempted, and does but mildly follow example. "Art," says Mr. Young, "not being really and truly Nature, may or must observe the consequence of the fact that she is not Nature, but only Art;" and on that principle his argument is founded. He says again:—"The distinct articulation of particulars, how important soever in certain respects, may, under other conditions, and for other objects, be sometimes worse than worthless." We believe

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[4] "Pencillings in Poetry; A Series of Poems." By the Rev. W. Vicary. London: Arthur Hall, Virtue, and Co. 1857.

[5] "Essays, Critical and Imaginative." By Professor Wilson. Vol. III. Edinburgh and London: Blackwood and Sons. 1857.

[6] "Pre-Raffaellitism; or, a Popular Enquiry into some newly-asserted Principles connected with the Philosophy, Poetry, Religion, and Revolution of Art." By Edward Young, M.A., Trinity College, Cambridge. London: Longman and Co. 1857.

the public generally incline towards a mediate view of the dispute, and for ourselves we have every desire to see the battle fairly fought out. To us, we are thankful to say the "Madonna del Sisto" does not appeal in vain, and we are bold to declare that Crivelli's "Descent from the Cross," in Lord Ward's Gallery, fills us with something better than a repulsive image of intense maternal love. Note that old woman. What a hunger of maternity! You find it almost shocking at first. But forget the idea, and think of the fact. The mind that can be disgusted, the faith offended, by a contemplation of that positive scene, must much want human nourishment. Turn then to Raphael. It is like the dew of heaven. Is one picture good and one bad? Is the system of one artist right, the other wrong? Because Raphael exalts, does Crivelli abase? Not so, if we understand that old tragedy of Judæa; but something of the kind will hang upon us if we have made a sentiment of it. And this is the danger of idealism to art, that it weans the mind from the significant humanity of things. And therefore is idealism, as a school, false—a mere copying of phantoms. But the tendency of art is to excellence, and that of the spirit to idealism. It will not for ever walk earth and pore on nature. It has the quality of flame once kindled. Consequently, the idealists represent a principle, and a high truth. Small realists may live, small idealists never. The substantial has a shadow, the insubstantial none. The greatest idealists sprang from a school of hard realism. To imitate them is to paint on air without the brush of light. Realism, then, is the only basis of art. Its sins are naturally the reverse to those of idealism. The latter demands mastery; the former taste. Lacking taste, the artist falls into the foulness of an Orcagna; and not possessing mastery, he is hopelessly lost in the puerilities of the Raphaelites. We believe that pre-Raphaellitism will lead to a good and great English School of Art, and that it is our sole chance.

Mr. Young's sneers are directed at Hunt's "Scapegoat" and Wallis's "Chatterton." One is a "wretched goat," and the other "a pair of puce breeches." If Mr. Young can see nothing in "Chatterton" but a pair of puce breeches, he is betrayed by his eye for colour, or by his antagonism to Mr. Ruskin, or by some haunting sense of the general importance of those indispensables. It is hard to say which. The colour is wonderful, but the chief merit of "Chatterton" is its subordination of parts to expression of the sentiment. It is a picture that requires no defence. Pre-Raphaelitism is more nearly concerned in the objection to the "Scapegoat." Mr. Young would have preferred an ideal landscape. But surely that grandeur of desolation—that sense of having before you the actual scene—is infinitely more impressive than anything idealism could convey? It seems to us all the difference between history and fiction. We trust Mr. Young will live to see that the artist's pilgrimage to the Holy Land has been productive of results even nobler than the rose-flushed mountains of Moab and rotting salt levels of the Dead Sea in that marvellous landscape. Perhaps he will live to acknowledge them.

We have no space to contest Mr. Young's definition of imagination. It is one of those subjects in which terms stand for ideas, and do not

quite comprehend them. We lean more to Mr. Ruskin's view. The "Collateral Chapter of Evidence" is very poor, and unworthy of the common-sense of the book. Is Mr. Young sighing for the Della Cruscans? It is really pitiful to read his interpolations in Wordsworth's Preface.

The critics who have not gone over to Mr. Ruskin declare that in his "Notes on the Turner Gallery,"[7] he has cut himself loose from the band of renegades. There is a change of tone—a monotony of discontent—in the Notes, that may give the surmise a fair start with those who do not read his books. In reality, he has made the same objections before in "Modern Painters;" but then they were isolated, not grouped together. A man less earnest than Mr. Ruskin would have toned his remarks to meet a certain warmth in the public, and warded the impression sure to be produced by a series of complaints. He says what strikes him as he looks at the pictures. Unmitigated praise is given to the "Fighting Temeraire" only, and in the writer's best eloquence. We await his verdict on the water-colour drawings.

"Two Years Ago" war was knocking on every hearthstone in England, and in the heart of this heroic time Mr. Kingsley has pitched his new novel.[8] The hero is, of course, Kingsleyan—a modern Amyas Leigh, adventurous, muscular, and Saxon—with whom, as with everyone else in the book, Mr. Kingsley does what he pleases. He has been equally lordly in the construction of the story. It begins with the end, and ends with the beginning. The plot hangs on a belt worn by Tom Thurnall at the time of his shipwreck off Aberalva, on the west coast, and containing fifteen hundred pounds in notes, the prize of his labour at the diggings. He is saved by Grace Harvey, the village schoolmistress; but, on coming to consciousness, he finds the cherished belt, which was to have given him house and home for his good old father, gone. Tom is a shrewd fellow, and to say he has seen the world is small commendation for a man who has been several times shot through the body, once hanged, and almost roasted for a cannibal feast. He suspects innocent Grace. Grace and her mother are Methodists. It is the Methodist mother who has purloined the belt. The Methodist daughter endures all the anguish of being suspected by her lover, and suspecting her parent, through the three volumes. At the close of the third volume she ceases to be a Methodist, and Tom, brought to the sense above senses by captivity in the prison of an ex-machinâ Khan, ceases to be an infidel. They meet on common ground—strong where one is weak, weak where one is strong. Mr. Kingsley has hit upon the right sort of lesson for a nature like Tom's—incarceration. But it will be seen that he has a purpose, and has consequently given us melodrama instead of life. The characters are in a state of hopeless subjection to purpose. Elsley Vavasour, poet, Mr. Kingsley tells us,

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[7] "Notes on the Turner Gallery at Marlborough House." By John Ruskin, M.A. London: Smith, Elder, and Co. 1856.

[8] "Two Years Ago." By the Rev. Charles Kingsley, F.S.A., F.L.S., &c. 3 vols. Cambridge: Macmillan and Co. 1857.

has something loveable in him. He is utterly detestable. There is not a single loophole through which we can perceive what this wretched creature internally can be like—all is vanity. His wife pleads for a possible good quality in him: he could not have won the charming little Lucia without some grain of manhood. If we take him from Mr. Kingsley's hands, a ghastlier phantasm the spasmodic poet's own brain could not conceive than is Elsley Vavasour. We see no soul in him, and believe he has none. This comes of "purpose" in novel-writing. Mr. Kingsley wanted to show the godlessness of a life surrendered entirely to dreams and desire for glory as opposed to what he (and we) must love best—a plain, practical Englishman, doing his work, respecting his dinner, and honestly seeking to better himself and all men. The consequence of laying down this plan is, that we have a figure stuffed with reeking straw, and Mr. Kingsley has just as much fellow-feeling for him as we have. Were his creation in the least human, Mr. Kingsley is the man to give him a trifle of sympathy; but Elsley is not. He is a chip of purpose, born two years ago to play the fool with a sweet little woman, blight her and everybody dependent on him, stumble up mountains at midnight, fire a frantic pistol at his supposed rival, drink laudanum, die, and point a spasmodic moral. No wonder Mr. Kingsley is constantly pummelling him. Compassion for this puny Frankenstein is out of the question.

Valencia St. Just, Lucia's sister, is admirably drawn. Like many a wise man, Mr. Kingsley has more respect for women than for the rougher sex. He has no compunction in his treatment of Nature's 'prentice handiwork—paints us dark or bright with reckless composure; but he sketches women with the reverence of a true artist. Valencia is pure flesh and blood. Any writer might be proud of these two delicious Irishwomen. You catch the delicate flavour of the brogue as they talk, and although Lucia is only here and there touched, she lives before you, and will not lightly be forgotten. We rather object to having Valencia coupled with a weak-chested curate. She will be just as faithful and deep-hearted to the death as Lucia, we know; still, it is not a fair conjunction. The love-making is done in very pretty fashion, however, and as there is no one else in the book on whom to bestow her, we must accept the decree, and bless the fortunate curate. Here is the scene where Valencia tells her brother, Lord Scoutbush (after ascertaining that he has had good sport with the rod) what she is going to do. Scoutbush, by the way, is the easy, natural portrait of any dozen Guardsmen in Her Majesty's army.

"He was sitting in dressing-gown and slippers, sipping his claret, and fondling his fly-book (the only one he ever studied *con amore*) with a most complacent face. She came in and stood demurely before him, holding her broad hat in both hands before her knees, like a school girl, her face half hidden in the black curls. Scoutbush looked up and smiled affectionately, as he caught the light of her eyes and the arch play of her lips.

"'Ah! there you are, at a pretty time of night! How beautiful you look, Val! I wish my wife may be half as pretty!'

"Valencia made him a prim curtsey.

"'I am delighted to hear of my lord's good sport. He will choose to be in a good humour, I suppose.'

"'Good humour? *ça va sans dire!* Three stone of fish in three hours!'

"'Then his little sister is going to do a very foolish thing, and wants his leave to do it; which if he will grant, she will let him do as many foolish things as he likes, without scolding him.'

"'Do it then, I beg. What is it? Do you want to go up Snowden with Headley to-morrow, to see the sun rise? You'll kill yourself!'

"'No,' said Valencia, very quietly, 'I only want to marry him.'

"'Marry him!' cried Scoutbush, starting up.

"'Don't try to look majestic, my dear little brother, for you really are not tall enough; as it is, you have only hooked all your flies into your dressing-gown.'

"Scoutbush dashed himself down into his chair again.

"'I'll be shot if you shall!'

"'You may be shot, just as surely whether I do or not,' said she, softly; and she knelt down before him, and put her arms round him, and laid her head upon his lap. 'There, you can't run away now; so you must hear me quietly. And you know it may not be often we shall meet together again thus; and, oh! Scoutbush, brother! if anything was to happen to you—I only say if—in this horrid war, you would not like to think you had refused the last thing your little Val asked for, and that she was miserable and lonely at home?'

"'I'll be shot if you shall!' was all the poor Viscount could get out.

"'Yes, miserable and lonely! you gone away, and mon Saint Père too; and Lucia, she has her children; and I am so wild and weak, I must have some one to guide me and protect me—indeed I must.'"

And so she wins her way, being irresistible. There is a sense of hurry in the book, from beginning to end. The changes of scene are violently swift, and both in dialogue and description Mr. Kingsley has used very broad brushes. He can do both so well—knowing men and life, the shores and fields,—with a poet's depth of insight and warm heart, that we must lean to the opinion this novel has been hastily thrown off. We are reminded of "Yeast," and "Westward Ho!" now and then, as if the poet were living on his capital. Some of the pictures are finely suggestive; and when Mr. Kingsley will only repose a little, and give his reason that relief, few can paint landscape with his vivid colours. Compare the "Shipwreck," and the "Storm on Glyder Vawr." In the first he is under control, having a terrible scene of human suffering on his mind; in the latter, he is wilder than the dogs of Annwn, hunting the unlucky spasmodist of his fancy. The Yankee and the Quadroon are mere obstructions, brought in to illustrate the Slavery question two years ago, and talking in as high style as we talked about it at that period, with the same result. It is when Mr. Kingsley speaks in person that we are most content. The bold and beautiful manliness of his remarks on marriage, and love in marriage, will be appreciated. In fact, if we regard this novel as a hearty sermon, with illustrations, dramatic and pictorial, we shall better estimate its character, and learn to accept it as the fresh outpouring of a mind constitutionally noble. The novel is only not artistic, because Mr. Kingsley is always in the pulpit.

"Men and women as they are, and life as it is," might be the

motto of Mr. Whitty's capital "Friends of Bohemia."[9] It will be an amazement to novel readers. They will think themselves out of the world, instead of in it; but those who have a taste for Thackeray, will at least endure Mr. Whitty. Knowing Bohemia you know the world. Bohemia is anywhere, and has its ambassadors and representatives everywhere. Want of money, a slip in morals, the disposition to vagrancy and adventure, whether caused by the gods or inflicted by the fates, constitutes you a member of Bohemia. Society opens its doors to some, and rejects others. There is no law, and virtue has nothing to do with it, for very great Bohemians become leaders of fashion. Byron was a Bohemian, so was Beaumarchais, Sheridan, Foote, and Balzac; so are the ladies A, B, and C, and the Princesse M., and Madame L., and M. de M. Mr. Whitty wishes us to acknowledge the sovereignty of this kingdom of wit and rags, indigence and good dishes, intrigue and philosophy. We have hitherto resolutely shut our eyes—or, at least, our circulating libraries—to it. After living the life of princes or beggars (for there is no middle class), in this fascinating foul country, and eating of the hog dressed whole, we pretend not to know that it exists. But if living Bohemians sit on thrones, if Empresses dance with them, if bishops dine with them, it is manifestly absurd to act as though they were not. Whether we are to regard them as the new canal-weed that chokes the passage of the water, or rats prophetic of safety to the good ships they do not forsake, is out of the question. I show you what is, says the satirist; so let the public bow their heads and read.

"Friends of Bohemia" will scarcely be read for the story. It is not ill-constructed, and might have been a very good one. But Mr. Whitty is a satirist, and seldom forgets it; the story springs from the satire, not the satire from the story: this is the error of the book. What he can do in the art of simple narration, is shown in the "Mad Story," and its sequel, the "True-love Story;" and our first introduction to the heroine of the latter, exhibits her character so true to the fatal antecedents, that we doubt very much if Mr. Whitty has not the making of a fine artist in him. His dialogues are rapid and dramatic as those of a French novel, and perfectly natural; your interest is excited: you turn to the succeeding chapter, and it all effervesces in sketch. The mistake is wilful. He is the true artist and the best satirist who can portray the world with colours blushing through its brazen face—not painted on. His work will live, his satire warn. Otherwise it is haphazard, and the mark is frequently missed. The hits in "Friends of Bohemia" are here and there exceedingly strong hits; the reflections often deep, sometimes shallow. Ask no opinion of Mr. Whitty—he is a satirist, and his business is to strike. He does it with a will. Ideas do not seem to form a residuum in his mind for judgment to sit on, and hatch putative wisdom (pass the metaphor); on the contrary, they fret for

[9] "Friends of Bohemia; or, Phases of London Life." By E. M. Whitty, author of "The Governing Classes." 2 vols. London: Smith, Elder, and Co. 1857.

immediate expression and a stout foe. Physiognomy and ethnology are drilled into his service. A weak peer wipes his "feeble lips;" an offended countess's "Danish face" pales. To review him in the same way, one fancies a little Cymric testiness in his blood, supported by Saxon muscle and love of combat. The characters are pencilled, not coloured; but we would rather have Mr. Whitty's outlines, than the filling in of many older novelists. Brandt Bellars, Jack Wortley, and Lady Beaming, are accurately drawn, and much superior to the vaunted personifications now in vogue, which first spread a bait to catch the fancy, and then play any number of pranks.

We will give a specimen from the "Back Streets of Bohemia," of Mr. Whitty's manner of hinting profound tragedy. Withers, the spokesman, is a man "diseased and can't work," he tells us. Thus he occupies himself:—

"'At night I begs a penny of swells as is always lushy, going over Waterloo Bridge, and sometimes they gives me sixpence, and says 'And be d—— to you!' and I goes on the bridge, and I sits in a harch, and other swell coves often gives me more coppers then, though I never asks, 'cos of the policeman. Well, being in the harch, of course I sees the gals throw themselves off. Wery hinteresting it is!'

"'But,' exclaimed Lady Beaming, 'do you see many?'

"'Yes, ma'm, if you please, in this weather. That's curus, that is: the colder the water, the more they makes for it. In summer, scarce one; at Christmas time, Lord, they goes one after another, like boys bathing. They think of their homes at Christmas, and—splash—off they goes! I've counted sixteen since the first of December. But no one knows but me—their bodies is never advertised—and nobody cares or hears of 'em, and they improves the white-bait for the swells in the season!'

"'You saw one last night?'

"'Ay—the gal as lived in this court. Werry cunning they goes about it—looking up and down so as not to be stopped, and not to have their legs exposed—they thinks of that, I know, and they never sees me; and when they have got on the top stone, they never waits to pray—not many on 'em does—but pitches right head in, which generally they comes agin the copings, and is mangled.'"

No amount of poetry, or descriptive genius, could surpass in depth of gloom and pathetic horror some of the things here said. It is terrible plain prose. Mr. Whitty's book is not infant's food. You are offered strong meat and sharp tonic.

It is a rare case when the rage for the autobiographical form of authorship, communicated among lady novelists by the success of "Jane Eyre," does not present us with at least one quarterly example of its continued prevalence; and, we suppose we must imply, the undiminished appetite of the public for gimcrack reminiscence and pincushion history. We acknowledge it to be a favourable medium for the transmission of stagnant experiences, and of ideas that find supports in notes of admiration. Many hundreds of villages in the United Kingdom have their tens and twenties of ladies ready and willing to recite all, and more than all, that they have felt and undergone, for the benefit of what men and maidens may choose to listen thereto. They esteem

it a delightful labour. Human nature loves to talk of itself. Will the public give ear? their task is so easy, their stories so flowing, and their capacity for selection so unrestrained, that no more flourishing profession could be indicated. With ourselves for our theme, fiction never fails us. Nevertheless, these ladies tell marvellous little story, and necessarily obtrude their own full lengths on the picture a great deal too much. We must accept them as the heroines of their own romance. They may affect to give you portraits of sweet women; but it is as impossible, as it would be ungallant, to forget the fair speaker. Has she not already coloured heaven and earth for you from her special impressions? You see nothing but through her perceptives. Well you know the secret something she nurses within her sensitive bosom, and beautifully she contrives that your sympathies shall be constantly alive to it! You may like other ladies better, but you are bound to prefer her claim on the hero, and second it by all the ardent vows of a zealous novel-reader. There is no escape. She snares you first by an excessive humility; then you grow morbid with her; finally maudlin.

The autobiographer of "Florence Templar"[10] is a lady of this sort. She lives in Templar Cross. She loves Charles Sutton, Captain R.N., who loves the fair Florence, who loves Mr. Gordon Graham, nabob and snob from the East Indies, returned to his native Templar Cross, dreams of which consummation he had enjoyed under an Indian sun. Can you allow for a moment the gentle autobiographer's heart to be broken, or say, her expectations to be disappointed? Charles Sutton may return to her a widower, with Mr. Gordon Graham's blood on his head, and two wooden legs to carry him down the hill; but marry him somehow or somewhere this lady must—unless it is an old maid pouring forth, and the first three pages always prepare you for that, by interjections of excessive charity for human weakness. Things, however, go better in "Florence Templar." Charles Sutton knows something of the inscrutable nabob not to his advantage. Small-pox is on board Charles Sutton's ship, the *Queen;* heedless of which, in his blind devotion, he rushes to Barton to put Florence on her guard, and is the cause of the poor beauty being disfigured with the disease so fatal to lovely women in novels when peculiar developments are required. Mr. Gordon Graham then plays a very off-and-on game, which he ends by running away with the pretty wife of Sir Edward, Florence's brother, whom we pronounce, as some justification for the lady culprit, to be no gentleman, on the strength of one speech he makes in the book. Florence dies; the small-pox conductor returns home from his cruise, is very miserable, and marries the autobiographer. We are sorry to speak slightingly of this quiet and unpretending work, but it is one of a bad class. Jane Eyre and Villette can only be done once. The autobiographer should both be something, and have something to say. We are offered instead shadows and tittle-tattle. If ladies still persist in adhering to this, which seems the easiest, but is really the most difficult, form of pure fiction, we beg them to throw

[10] "Florence Templar." London: Smith, Elder, and Co. 1857.

over and mentally annihilate Miss Bronté's too-fascinating works, and turning to the one great masterpiece we possess, take a course of "Robinson Crusoe."

Insanity is hereditary in the Templar family—insanity is hereditary in Bernard Huntley, one of the destined bridegrooms in Miss Hume's "Wedding Guests."[11] He is conscious of the taint, and flees from Helen Montagu, whom he adores, that the terrible malady may not be perpetuated. Frank Littleton reasons with him, and rescues him out of his belief in the necessity of his self-sacrifice. The subject, as a theme for lady novelists, has been discussed in this *Review*. Perhaps we have no right to say that it is unpleasant to us personally. A very little jars on the delicate nerves of fiction, and although Helen Montagu may be contented to take him and try him, and although in real life to condemn a straightforward, physically-healthful young man to unnatural celibacy, on account of such a transmissible evil (knowing as we do that the tendency may be ultimately destroyed by vigilance and self-command), would be remorselessly unjust, and a kind of cruelty likely to develop what it seeks to check,—still, so deep is the question and so widely does it radiate on all the sources of sin and mortal misery, that it never can be satisfactorily handled in a novel, and does but make that dainty dish one of troubled waters. Helen Montagu will bloom into a trusty bride for the young man; there is every hope that when beauty shows the sere leaf, and wives wear the autumnal cap, she will not come down upon him with the gales of the season, and scold his wits away. But are we quite sure of that, Miss Hume? You will vouch for your heroine, and have drawn her very purely. Time, however, takes no certificate. Sick as we are of "purpose" in novels, we do not ask for nothing but pleasure. If life in the present is to be portrayed, some hard things must needs obtrude. The province of Art is to subordinate and soften them down. There are few subjects not legitimate to the novelist, but as we are happily constituted to shun and detest the sight of evil, it should be the novelist's care not to give what is painful undue prominence, and especially not to strike a doubtful chord in the mind. We look on life apprehending the bad and searching for the good. In the picture of life, this search should be assisted without compromising truth, and to do this, and not throw dust in our eyes, is to be a great and worthy artist. The "Wedding Guests" is written in very feminine style. Here is Helen's avowal of what has taken place between herself and Bernard:—

"'Oh! dear Florence, it is not sorrow,' murmured Helen, unable, so adjured, to resist longer. 'It was—Bernard,' she added, in the faintest possible whisper."

Florence instantly divines the bride-cake and orange-blossom. The "Wedding Guests" is burdened with dialogue. Miss Hume has not much to relate, and consequently talks incessantly. This is a most trying business for a young writer. Miss Hume's conversation is

[11] "The Wedding Guests; or, the Happiness of Life." A Novel. By Mary C. Hume. 2 vols. London: J. W. Parker and Son. 1857.

easy, but altogether wants salt and flavour. After a satisfactory construction of plot, when to dramatize and when to narrate, is the novelist's lesson.

We are summoned from the peaceful parks of England and the exceedingly placable speech of Miss Hume's Englishmen, to the robber-haunted mountain forests of Sardinia. It is still the nineteenth century, and the change is startling. Here we have brigands holding villages in fief, and using pistol and dagger as coolly as modern men ply knife and fork. Damsels are torn from their homes, and recusants in the matter of black-mail struck to the heart under the eyes of their townsmen, by single-handed chiefs. Fra Diavolo is himself again. Those gentlemen who are tired of civilization had better go to Sardinia. That such a condition of things is not exaggerated by Giulio Branchi,[12] we gather from corroborative testimony. Excellent villains live there, banded in pure lawlessness, and the best chance that he has whose luck leads him among them, is to get himself speedily enrolled a member of the society. Such was the luck of Giulio Branchi, when a boy shipwrecked on the coast; and he was soon a full-grown bandit and one of the troop, attired in "a long loose jacket of the coarsest cloth, from which hung large metal buttons, a pair of nether smallclothes, wide enough for a man double his size, with the strings untied, and dangling over his naked legs, covered with dirt and hair; a coarse shirt, dirty, yet braided and fastened with a button of similar material to those of the jacket, but smaller, and the open collar displaying a brawny throat, almost black with exposure and want of soap, a broad belt of untanned goat-skin, which served the double purpose of keeping up the drawers and holding a bright stiletto-knife, which was rudely thrust into it," together with a long-barrelled gun for companion. All this is novel and refreshing. The Lieutenant, Jacopo, we are more familiar with. He wears "a handsome braided jacket, a shirt of the finest linen adorned with gold studs, a leather belt ornamented with silver, from which a splendid stiletto hung; breeches tied at the knee with red ribbons; stockings of fine wool, and low shoes of untanned leather." One of the band is a compatriot of Giulio, a Tuscan of good birth and brighter prospects, from whom the youth learns drawing, imbibes an acquaintance with his native classics, and hears the experience of an irresolute life. This Signor Beppe being mortally wounded in a skirmish, bequeaths him his effects, and aids him to escape. There is character in the account of the old chief, Minucci, so well versed in the political history of his time, and keenly watching the currents of the world from that nest of isolation and outlawry. The Capo Minucci is full of gay and gentle humours; raises his little skull-cap to the Pope's name, and cracks unceasing jokes; but thwarted an instant, his wrath is swift and sure as Heaven's lightning. The storm passes, and his serenity beams and bubbles on in the old fashion, without the smallest acknowledgment of the ghastly breach. These tremendous natures, trained to contempt of death, and

[12] "Giulio Branchi. The Story of a Tuscan, related by himself, and translated from the Italian MS. by Alfred Elwes." London: Addey and Co. 1857.

aided by the joint action of passion and policy to strike like fates when they see occasion, are possible to the condition of things Giulio remarks in the island of Sardinia; and it is Minucci, and "Il Lupo," the rival chief, who bring us to put faith in "Giulio Branchi," as something of pure autobiography. If not written from absolute fact, we can only say that splendid opportunities have been lost for romance.

Giulio returns to Leghorn, and becomes a successful painter. A certain lovely Florentine Marchesa is taken with the lustrous eyes of the young artist; and the relation of their amour, whether actual or not, we find extremely feeble. Eyes are "moistened with sympathetic emotions;" young lips are "ruddy with saucy health," and drawn to each other by "irresistible magnetism;" "place, time (midnight and a boudoir), ardent feeling, delicious atmosphere, and the witchery of the hour," are invoked. This is not describing, but blurring. If the writer wished to drop a veil on such scenes—and we have no objection whatever,—it is possible for the most passionate love to be delicate without endangering apprehension,—always sufficiently alive when not misled; and the more deeply passionate, the more tenderly delicate it will present itself to us. We doubt whether Mr. Elwes has here done justice to the original MS., and cannot but fancy he has been dressing the "delicious atmosphere" for introduction to our moral one. Assuredly, any example is preferable to that of the French school in these cases; but when they are touched on—if we must have them—there is a vice in conventionalism only just better than rank licence. They are intolerable, except when the free confession of a heart that has been thoroughly moved. Conventionality destroys the truth of tone, and while it conveys error as vividly to the mind, forfeits that natural sacredness of earnest feeling, which, by an appeal to higher emotion, alone renders evil not contagious. The end of the book reads like a novel. Giulio marries Annie Leslie, an insipid heroine, who rouses our suspicions of Giulio as an authentic story-teller of his own fortunes. We cannot speak over-favourably of the execution; but accepting the book in the light of positive autobiography, it is of some value, and has the merit throughout of being entertaining. The statement given of the monster Bolli, the shoemaker, can be confirmed, we suppose. Giulio is near being a victim to this European chief of Thugs, whose emissary, having missed his blow, thus confesses—

"Oh! Signore—kind, gracious gentleman,—do not be angry, but listen. I will tell you all. We are five who work for Signor Bolli, the shoemaker in Via——, who sends us out every night—one here, one there. We are all furnished with these instruments (a packing-needle of the largest size, fixed in a rough wooden handle); and our master tells us to destroy all we meet. The *Padrone* has made a vow to have the Mesericordia bell ringing every night, and that is why he employs us to do the work. If we wound man, woman, or child, we get two *lire* for our pains; but if we kill any one outright, he pays us a dollar, calls us brave fellows, and bids us watch again. It is now eighteen months we have been at this work, and more than a hundred have been either stabbed or made cold during that time."

It is satisfactory to announce that Bolli was brought to judgment;

and they who already take an interest in Giulio Branchi will gladly hear that the young Tuscan was a prime instrument of vengeance.

A simple story simply told is a boon to literature, and "Jessie Cameron"[13] weighs more than a pile of fashionable novels in the critical scale. The narrative is quiet and vigorous. The "Scotch" is excellent, if we Southrons may be allowed an opinion thereanent—natural, and never intrusive. The central figure, Jessie, is a leal lassie, and how she loves, and proves her worth, we recommend our readers to find out for themselves. There is nothing to criticize, for there is nothing to condemn. The book has given us great pleasure, and we hope the clever authoress will be encouraged to proceed with a series of Highland tales. She has opened as good, and some may think better, ground than Auerbach, in his "Black Forest." Her touch is equally delicate, and shows deep feeling, void of sentimentality.

Humour is not a distinguishing feature of German literature, and all the more precious because so rare. Jean Paul's humour was an expression of eccentric individuality, and Heine's never allowed a quiet easy laugh. He opened the heart by a subtle turn, but it was to plant his sting as deep as we could bear it. In his "People of Seldwyla,"[14] Herr Gottfried Heller proves himself a humorist of the right class. The writing is delightfully sweet and simple. It would make a child laugh, and is full of wise, quiet fun for those who have tasted experience. Seldwyla signifies, in the ancient dialect, a merry, sunny place, and is a little village laid by Herr Heller "anywhere" in Switzerland. He excels in description. He has that calm grasp of imagination which enables an author to write vividly without strain, and produce strong impressions by easy means. He is at home with people of all ages; but perhaps, on the whole, he loves children best: not in the maudlin modern way: they are not at all little heroes and heroines; their natural destructiveness, and pretty little manœuvres to get the best things for themselves, are all clearly and lovingly seen and painted by Herr Heller. He knows them thoroughly. He may not please the ideal public, who prefer dolls to vigorous little men and maids. He is all the more reverent for sketching reality. It is long since we have had so charming a present, or one which we are sure will give English readers such pleasure as "The People of Seldwyla."

Several erudite books from Germany demand our attention this quarter. Foremost amongst these in usefulness we must rank Dr. G. Bernhaldy's "Ground-plan of Roman Literature,"[15]—an invaluable work to the student. The characteristics of the language, the literature, and people, their education, instruction, and culture in the arts, are luminously discussed, and without over-elaboration, in an introductory essay; as also the different philological methods adopted throughout Europe before and since the rise of the Latin schools. Dr.

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[13] "Jessie Cameron. A Highland Story." By the Lady Rachel Butler. Edinburgh and London: William Blackwood and Sons. 1857.

[14] "Die Leute von Seldwyla." Erzählungen von Gottfried Heller. Braunschweig: Vieweg und Sohn. 1857.

[15] "Grundriss der Römischen Literatur." Von G. Bernhaldy. Dritte Bearbeitung. Braunschweig: Schwelschke und Sohn. 1857.

Bernhaldy progresses from age to age in chronological order; elucidating (to use Professor Wolf's words) the historical data from which the advance and decline of the nation in arts and sciences are discernible; tracing the causes of a developing and failing taste; and completing with a circumspection of the destiny and mutation of the language, its refinement and degradation. The influences of the various Italian dialects on the internal history of Roman literature are dealt with in the first division. The three periods of its growth and flower, the golden age of Augustus, the silver century between Tiberius and Hadrian, and the age of literary anarchy up to the time of the Goths, are followed out in all their productions, from the classic prose of Cicero to the era when plebs, provincials, and Africans made their irruption on pure Latinity. The second division begins with a chronological survey, and treats in detail of the dramatists, tragic and comic; the epic, didactic, lyric, satiric, poets; the epigrammatists, the fabulists, and idyllic poets. A succinct sketch of their lives is accompanied by criticisms of their works severally. Dr. Bernhaldy's estimates of the poets are orthodox, and we have nothing to complain of in his general summary; but it is difficult to understand how he can dismiss the comedy of Querolus in one word as "geistlos." It contains, to our mind, much admirable wit, elegant writing, and knowledge of life, besides good plot and moral. The history of Latin prose concludes the volume, taking in succession the historians, orators, philosophers, naturalists, medical writers, and grammarians; and ending with a review of Roman jurisprudence, and of the Fathers of the Church. Dr. Bernhaldy has interspersed notes of the editors, emendators, and publishers of the different texts, and specifies their merits. His book is clear in style, compendious, and well deserves translation into English, for the use of scholars.

Leo Meyer's "Observations on the Most Ancient History of the Grecian Mythology,"[16] and H. Dietrich Müller's "Mythology of the Grecian Races,"[17] are works of more peculiarly classical significance, and appeal to a smaller class in this country than they will find at home. The first gives the gods in succession, and probes their poetic appellations, and story, to discover a meaning and the symbolic image from which they sprang. Niobe compared herself to Leto, as a more prolific mother, and was killed, in scorn, by Apollo and Artemis. "Consequently, Niobe appears to betoken the starry heaven, whose children, the stars, were killed by the rays of sun and moon." Many Sanscrit derivatives are pointed out, and from one the ox-eyed lady suffers. Aphrodite typifies the Morning-red.

"Very commonly, for instance in the "Iliad," Aphrodite is named the daughter of Zeus. Her mother is Διώνη (Sanscrit, Divana), its relation to the sky, div, heaven, is at once evident. Aphrodite sinks, conquered, in the bosom

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[16] "Bemerkungen zur Ältesten Geschichte der Griechischen Mythologie." Von Leo Meyer. Göttingen: Vandenhoeck und Ruprecht. 1857.

[17] "Mythologie der Griechischen Stämme." Von Heinrich Dietrich Müller. Erster Theil; die Griechische Heldensage in ihrem Verhältniss zur Geschichte und Religion. Göttingen: Vanderhoeck und Ruprecht. 1857.

of her mother—the Morning-red fades in heaven . . . . Everywhere she shows her weakness; the Morning-red soon dies, extinguished by the shining of the sun, the clearness of the day; and the more remarkable is her beauty."

Herr Müller's publication is the first part of an attempt to track the old Greek hero-traditions, in their relation to Hellenic history and religion. It is a work of profound ingenuity—a title to be respectfully applied,—and would alone give Herr Müller claim to high rank among the innumerable family of scholars of his name. The same may be said of Herr Jacob's voluminous essay on the "Origin of the Iliad and the Odyssey."[18] Herr Müller, in the course of his inquiry into the creation of the gods by the different, and by turns dominant, Greek races, positively dissevers the authorship of the "Iliad" from that of the "Odyssey," which he asserts to be a later production. Herr Jacob is of that opinion. But he goes farther, and is inclined, after tender hesitations, to split the blind old man into many minstrels. "On first attempting to form a judgment," he says, "he leaned to the belief, and long continued to maintain it, that, notwithstanding the doubts and scruples raised by the deepest erudition and greatest acuteness, our 'Iliad' and 'Odyssey' might still be Homer's poems." The gravity of this announcement will not provoke a smile in Germany, where the dispute is now ancient, and the battle threatens to be as immortal as the Songs. The more he thought and searched, the less he could conceive it so. We may say *cui bono*, but it is almost time for us to speak something more to the purpose. Herr Jacob is a worthy adversary—have we no English Achilles? Is Dr. Donaldson sulking, since Jashar was ravished from him? The dead body of Homer lies between contending hosts on the fields of Troy, and the enemy is in such force that he will soon be torn from us altogether, unless some hero with the flame of Pallas on his forehead, stand forward and affright from their prey these sacrilegious dogs of carnage who respect not friendship.

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[18] "Ueber die Entstehung der Ilias und der Odyssee." Von August Jacob. Berlin: Georg Reimer. 1856.

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